

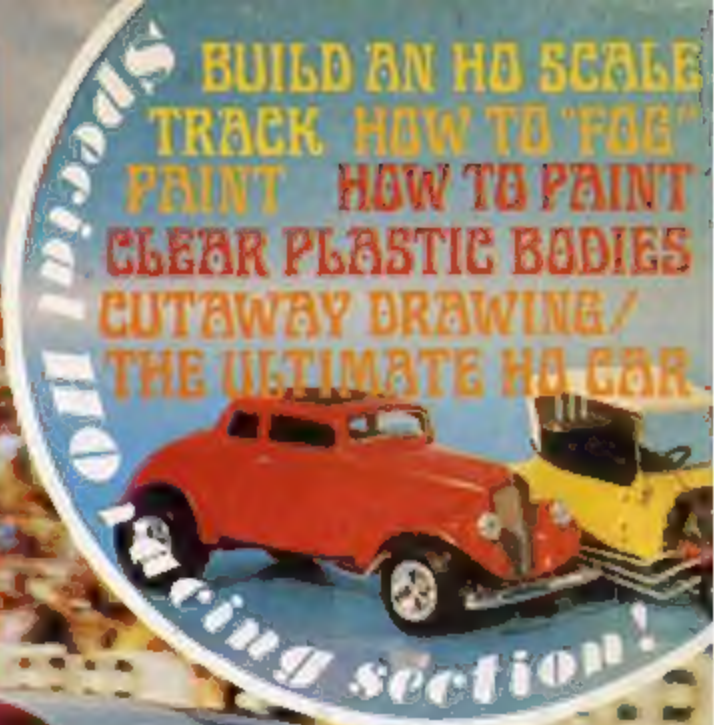
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MODEL CAR

Science

MARCH 1969

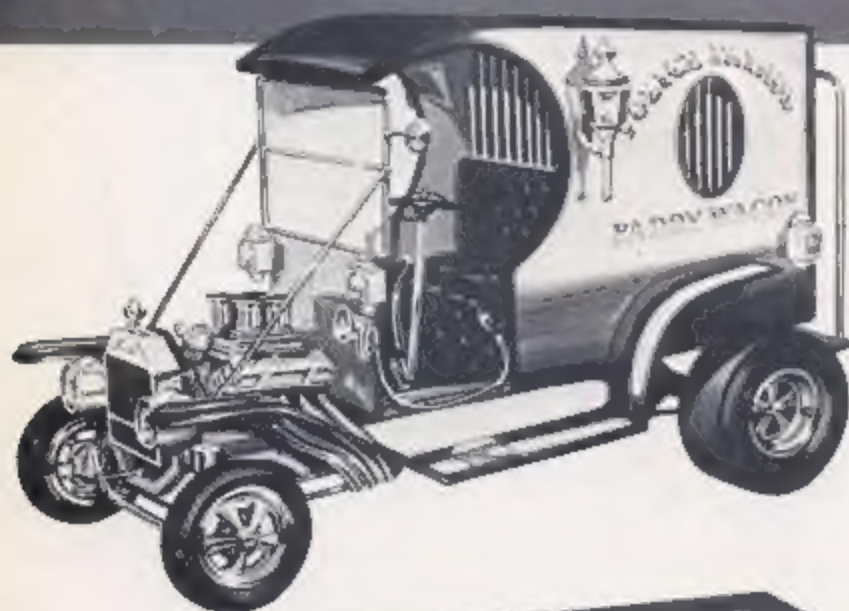
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The one that'll turn you on
the minute you lift the lid.

Here come the Paddy Wagon.

The Judge is coming later!



**KEEPS RIGHT
ON HAPPENING**

March, 1969

MODEL CAR SCIENCE

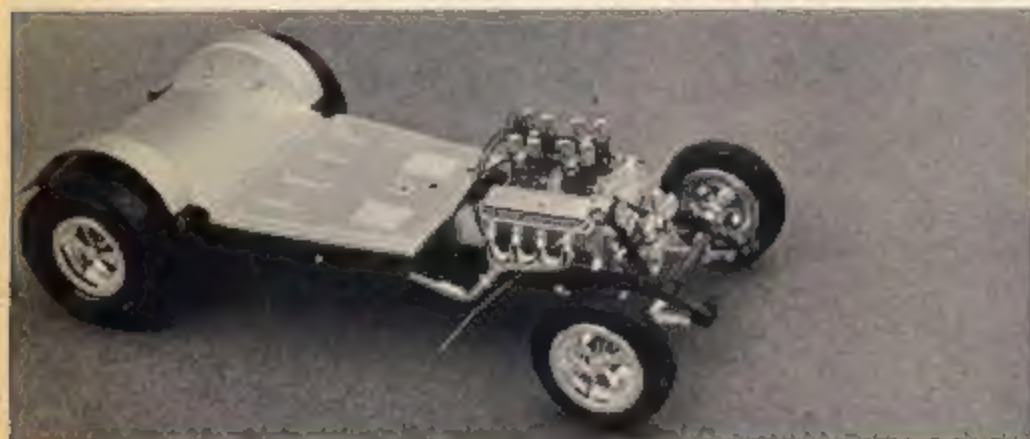
Volume 7, Number 3

ON THE COVER

Dennis Doty's fantastic E-Jaguar is shown in several views. The first part of this absorbing customizing story begins on page 30. We're sorry to report that the second part of our "The Ultimate HO Track" did not make this issue, nor did the cutaway drawing of the HO car, due to a rampant case of the Hong Kong flu among our writers. Our entire staff was blitzed by this "bug" this month, and this issue was put out under the most difficult conditions imaginable. Watch for these two stories, next month.

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PUBLISHER
Stephen D. Uretts

EDITOR
Raymond E. Hoy

MANAGING EDITOR
Tom Madigan

TECHNICAL EDITORS
Don Emmons
Tom Malone
Floyd Menly
Mike Morrissey
Tom Payne
Michael Posa
"Brick" Price
Jose Rodriguez, Jr.
George Siposs

ART DIRECTOR
George Wallace

GRAPHIC DESIGN
Gunther Bahr

DELTA MAGAZINES, INC.
131 South Barrington Place
West Los Angeles, California 90049
Phone: 213/476-3004

PRESIDENT
Gordon Behn
ASST. TO THE PUBLISHER
Bill Lloyd

ADVERTISING DIRECTOR
Marvin Patchen
Phone: 213/332-0186

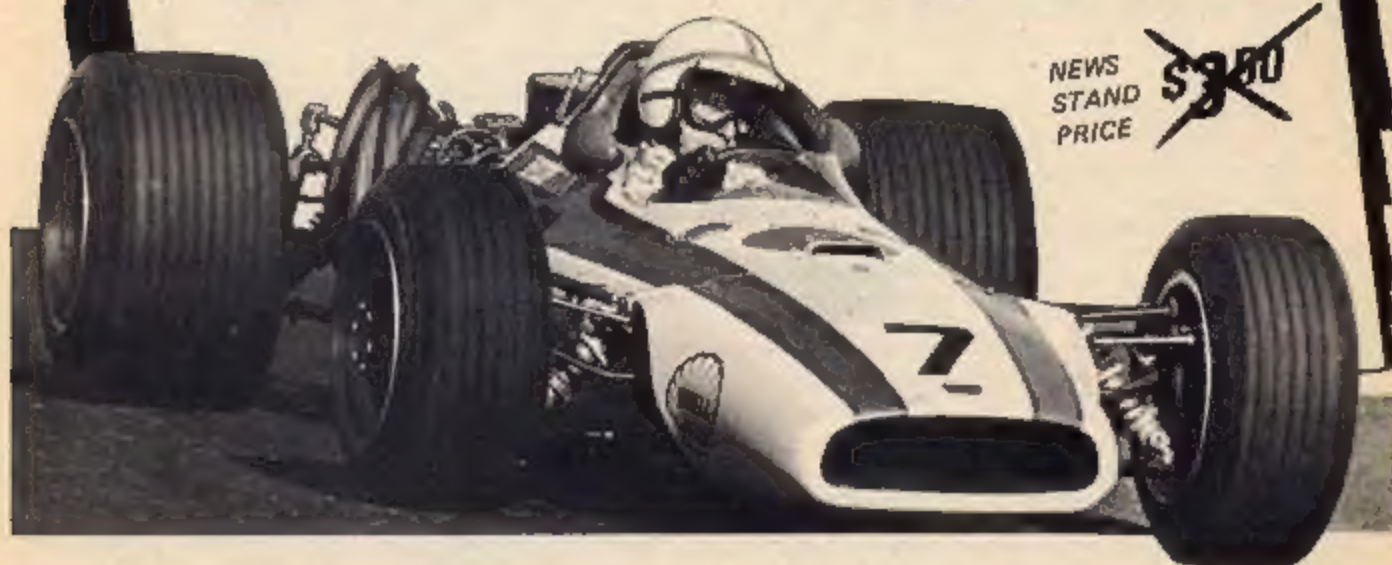


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REMOVE CHROME PLATING

Here's a tip. As you know, sandpaper takes off detail if you use it to remove chrome plating from bumpers or body components, so it's far from ideal. Here's a better way. Sprinkle some kitchen cleanser (Comet, Babo, etc.) on the part and use very little water. Scrub the part for a few seconds and the plating comes off, leaving the fine detail. Works great, at least for me!

M. May
Andrews, Tex.

Thanks Mr. May. It's tips like this that make model building a lot more enjoyable.

WISH WE COULD SAY YES

Is it possible to rewind a motor to match the motors that the companies sell for around \$17.00, using the latest components, but doing it yourself? I just can't put out that kind of money to buy factory rewinds.

Mike Hall
Oregon, Ohio

Wish we could say yes, Mike, but we'd be stretching a point. You might be able to save a dollar or two, but it's unlikely. Figure up the individual components you need and you'll see that you're all ready within a few dollars of their retail price, and it's highly unlikely that your finished motor will be as fast and reliable as a good factory job, because they use the most expensive equipment and the latest techniques available—two vital components that do not appear inside the motor you buy, but are necessary anyway!

CAN'T FIND WHAT HE NEEDS

I can't find LaGanke "Tiger Paw" silicone tires. Can you tell me where I can buy some?

Bill Parker
Auburn, Maine

Buy right from the factory if you can't locate them elsewhere, Bill. The address is LaGanke Racing Products, Dept. MCS, 670 South Green Road, South Euclid, Ohio 44121.

ONE-EIGHTH SCALE MODELERS, ATTENTION!

I'm building a one-eighth scale rod from scratch. After the car is finished, could it possibly appear on your cover? Would it be much trouble building a working rear end for a car like this? What happened to the one-eighth scale model car builders of yesterday? I used to see "big cars" in the magazine all the time.

Thomas Banks
no address

Check page 44 for the most ambitious one-eighth scale customizing job you'll ever see, Tom. Dennis Doty does things to Monogram's "E" Jag that are guaranteed to make your eyes pop. Sure, we'll consider running a picture of your car on the cover, IF it's an exceptionally beautiful car with superb workmanship like Dennis Doty's, on this month's cover, and IF the color transparency that you send in is of equal quality. Good luck.

WANTS TRACK INFO

I'd like some info on two and four lane track layouts. By Christmas, my club will have close to 200 feet of track. If you have some clubs, could you please send information on them?

I have no generator big enough for our club track. Can you help?

Donald Joyce
New Brunswick, Canada

We run a club listing, Don, and you could possibly contact a club near you and see if they can help in some way. What you mean is a "transformer" that will put out enough current to power your large track. We suggest you write to Auto World for their mail order catalog. Their address is Auto World, Dept. MCS, 701 N. Keyser Ave., Scranton, Pa. 18508. Include 50¢ to cover handling and postage. They carry a large inventory of good power supplies that will do the job.

For track plans, etc., send \$2.50 to Rayline, P. O. Box 1738, Thousand Oaks, California 91360 for their "The Art of Track Building" and "The Rayline Portfolio of Track Designs"—the most informative books on the subject of home track building on the market.

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to build and not too expensive?

Mark Hughes
Ankeny, Iowa

Well, Mark, strangely enough it's impossible to build a car more competitive for less money than the beauty that Rigen has just released. Check our "New Products" section, beginning on page seven, for a close look. If you bought the individual parts, you couldn't match the price, and this baby handles and goes beautifully.

THE MILITARY NEEDS HELP!

I'm stationed at Supreme Headquarters, Allied Powers Europe, here in Casteau, Belgium. We have a small (90 feet) track here for military and dependents of SHAPE and need a good lap counter. We'd like any information you have on any company producing photo-electric counters.

We believe we have the most international track around. We have military people and dependents here from 14 different nations at SHAPE, and our "SHAPE Racing Association" is truly an international organization.

We'd appreciate any help you can give us on the lap counters.

SP5 Wilber L. Hinson,
HHC HQCMD USA Elm S. H. A. P. E.
APO, N. Y., N. Y. 09055

Sounds like you've got a very interesting club, Wilber. If some manufacturer, distributor or fellow hobbyist out there can help this club, please write directly to SP5 Hinson, at the address listed above.

6/Model Car Science

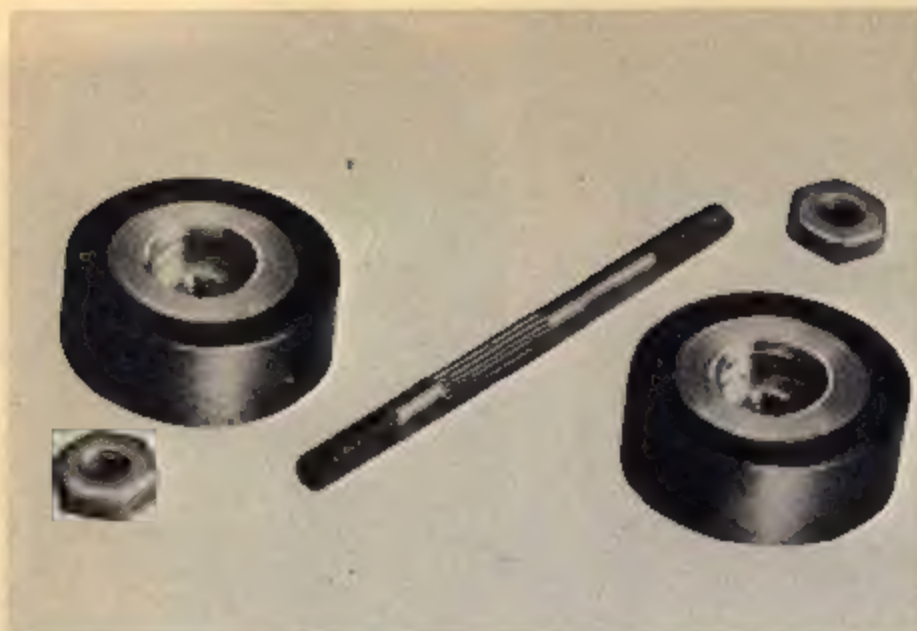
New Products



AMT adds SOUND to a model car kit! AMT is including a free 33-1/3 rpm phonograph record with their Shelby GT 500 Cobra Mustang kit. The record, produced by Auravision is called "The Sounds of the Cobra" and narrated by Carroll Shelby. Carroll takes the listener through the hair-pin turns of Riverside International Raceway as he explains the course, the speeds and rpm's he is running, etc. "The Sounds of Drag Racing-Part I" is included in their '40 Ford Coupe kit, and will feature Tom "The Mongoose" McEwen, nationally famed AA/Fueler driver. Watch for them on your dealer's shelves.

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Twinn-K is on the loose with an improved version of their famous Sil-i-Kone Speed Kit for H.O. The TK-110 Speed Kit consists of two, threaded, aluminum hubs with bonded, chunk-proof Sil-i-Kone, threaded axles, and brass jam nuts. Price is just 75 cents. They're 1/32" wider than the original H.O. tires. Available in most well-stocked shops, or write direct to Twinn-K, Inc., Dept. MCS, P.O. Box 31228, Indianapolis, Ind. 46231.



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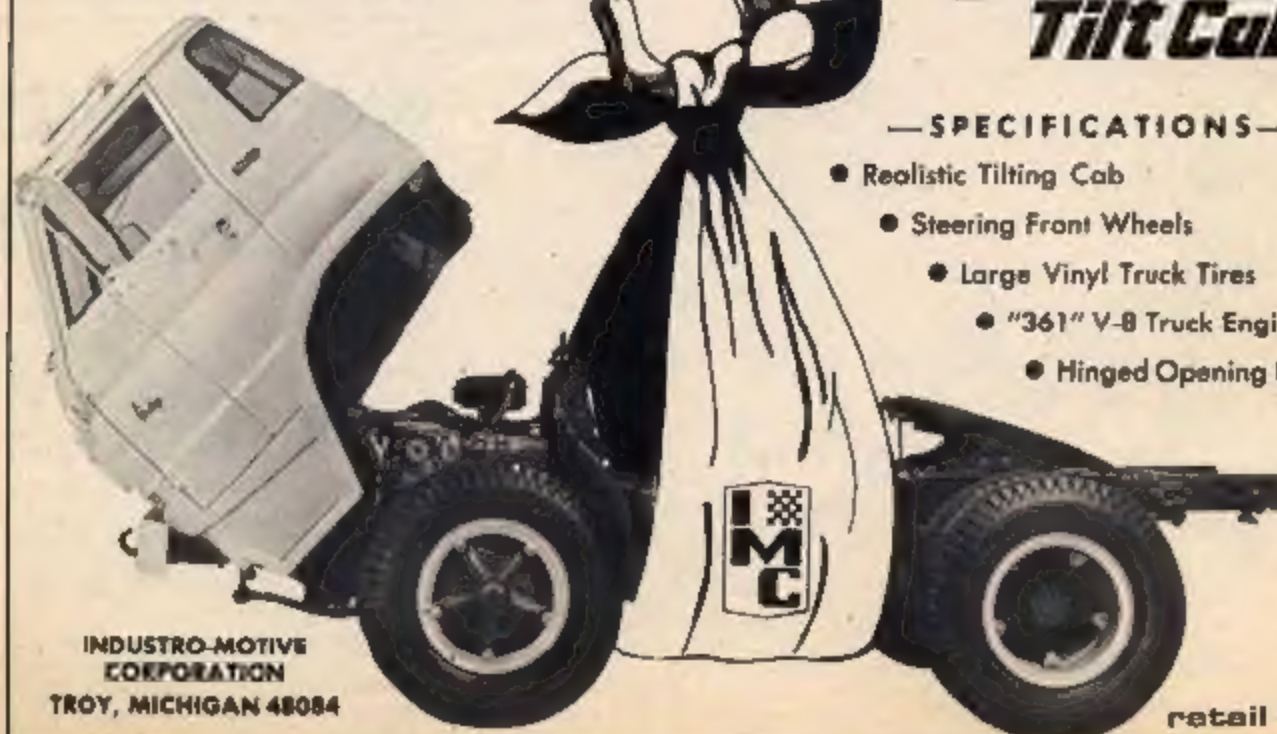
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Send 35¢ for new 1968 color catalog of Revell kits. Revell, Inc., 4299 Glencoe Avenue, Van Nuys, California 91411.

February, 1969 • Model of the Month • Sikorsky CH-54A Skycrane

March 1969/11

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A ready-to-run Mk IV Ford by Ripgen is on the way, and it's fast! Priced at just \$9.50, the new 1/24 scale car features a heavy brass pan chassis with drop arm, set-screw, aluminum wheels all around, and a 26-D inline motor. It's a real "handler" so look one over soon.



Shirley
Temple
Black

GIVE HOPE!

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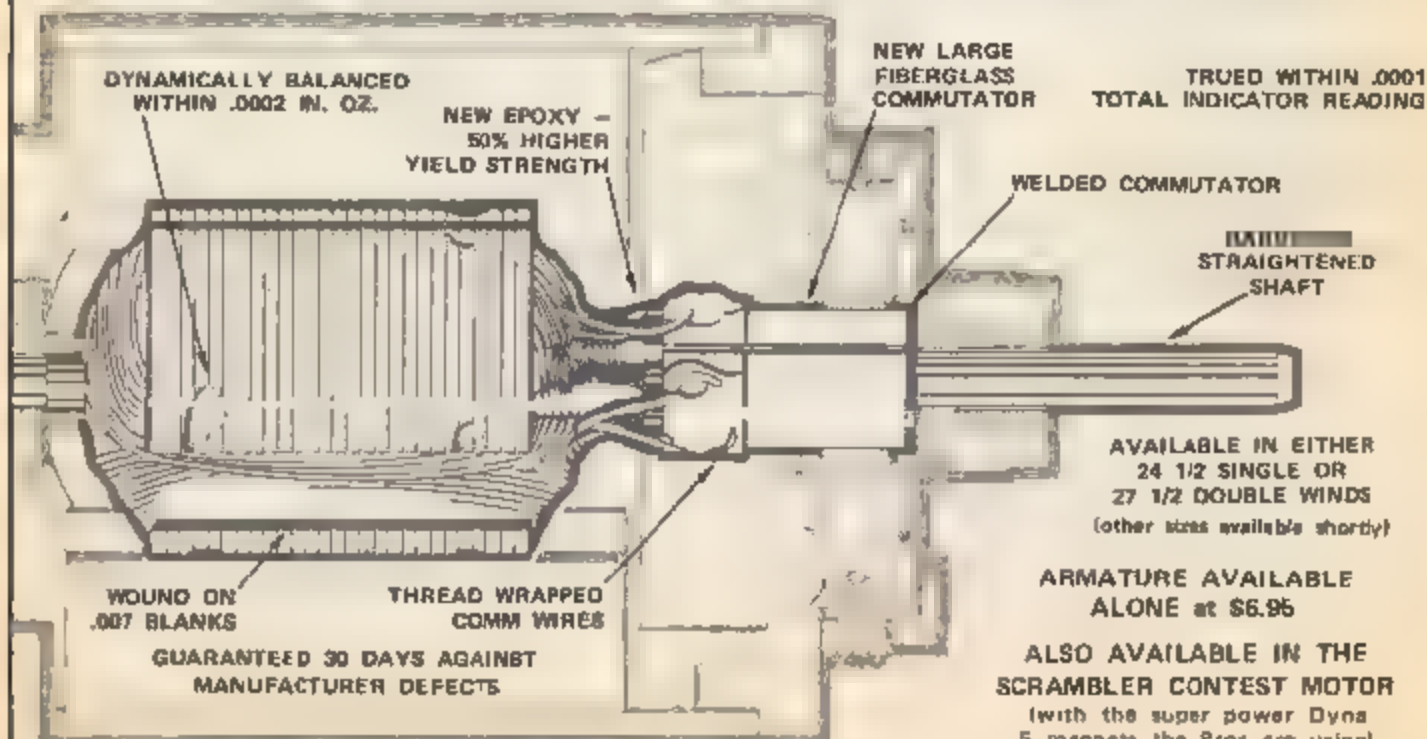
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At opposite ends of the automotive spectrum are the fire-breathing Javelin and the 1935 Mercedes-Benz 500K, nevertheless they both come from the same manufacturer—Johlan. The classic Mercedes has all the posh elegance one could ask for, and it was a real "goatin' machine" in its day, too! The Javelin Funny Car is brutal and super-quick. Build 'em both, there's no need to skimp at the low price of just \$2.00, and you can always rely on getting that famous Johlan quality and detail.



Classics are popular this year, and Monogram Models has one, too. Their 1934 Duesenberg Town Car follows the tradition of quality and authenticity that they established a long time ago with their other cars in their Classic Series. This 1/24 scale, \$2.00 model features an exact copy of Duesenberg's 320 hp model S1 straight eight engine and supercharger, and it's the high-point of the car. The hood is removable to show the powerplant in all its glory. Look one over today.

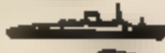
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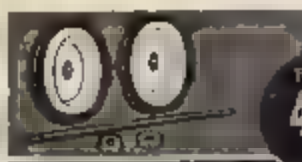


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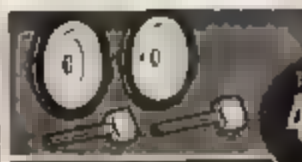
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TK 310

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Set



TK 311

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Set



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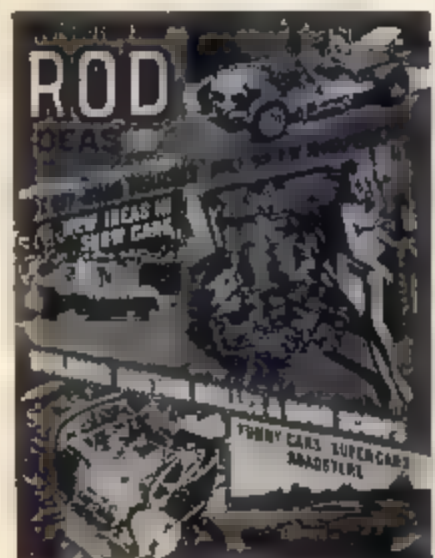
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HO ^{By Tom Payne} the scene

Through the magnifying glass into the "little world" of racing.

Like many of my compatriots here at MCS, I'm fighting a bad case of the Hong Kong flu, which makes getting this column out on time, tough. (I know, Tom, I've got it too, and I'm editing this column and the rest of the issue from my bed at home—Ed.) This type of flu has gone through Southern California like the plague, and the rest of the nation too, from what I hear. At any rate, I'll do my best and hope to be on my feet for the next issue.

"FULL-HOUSE CHASSIS" DEPT

Next month you'll also see a complete "how to" on building the full-house chassis that will be featured in the cutaway drawing, so you'll be getting a double bonus. This brute will feature parts from all of the major hop-up houses (La Ganke, Hobby House, AJ's, etc.) so you know it's going to haul the mail!

"CUTAWAY DRAWING" DEPT

This month's issue was supposed to carry a cutaway drawing of a full-house HO chassis, but the flu bug nipped it in the bud (see page 47 for a full explanation—Ed.) so you'll have to wait until next month. It's worth waiting for Joe Puckett, our staff cartoonist, is doing the drawing, and he's an extraordinarily fine artist when it comes to doing things like cutaways. You won't want to miss it!

"TIP" DEPT

I have a letter from Bill Dawson, of Bellaire, Texas, and he has a great tip to pass along to you readers. I quote: "Thought I'd drop your readers an easy hint for improving handling of the T-Jet chassis. We know that a wider track (particularly in the front) improves the cornering, and I recommend starting off with the Aurora hop-up kit, but with certain modifications. If the racer hubs are used with over-size front tires, the pin has too little slot penetration. However, used backward, the small stock ones will fit, give wide stance, and proper pin penetration. Naturally, use some kind of silcones at the rear—a wide track is good, but not as wide as the front." Unquote.

Thanks, Bill, for the tip. It's letters like this that help HO buffs everywhere, and they're greatly appreciated. Send your tips, complaints, or "battering the breeze" letters to me, Tom Payne, MODEL CAR SCIENCE, 131 Barrington Place, Los Angeles, California 90049. I'll try to take advantage of as many of them as possible.



"WINNER OF THE MONTH" DEPT

The winner of this month's table top photo contest, is Carl Anderson, of 14 Norman Street Newport, Rhode Island 02840. Carl gets a one year subscription to MCS. His track measures 73 feet in lap length, and features a 14-1/2' straight, a 12-1/2' straight and two 8' straights. In other words, it's a fast race track! Carl painted the picture on the wall, and states that if you're interested in how to paint pictures of cars without having any artistic abilities, please write to him and he'll give you the full story. Include a self-addressed, long, stamped envelope with your inquiry please. Good looking track, Carl, your subscription is on the way.

Any of you fellows can enter this contest. Simply send a good, sharp, black and white photo (any size) of your track and a brief subscription to me, at the address listed elsewhere in this column. If I select it as the winner, you'll get the picture pub-

lished in this column, and a one year subscription to MCS.

"THE ULTIMATE HO TRACK" DEPT

I can't wait to see Part Two of "The Ultimate HO Track" story. Extremely good layouts can be made on one 8' x 4' table, such as the one you saw in the last issue. Don't know how many of you have ever raced on a routed HO track, but I have, and it's a real pleasure! The cars run silky-smooth, believe me, and there just never seems to be any electrical problems, no matter how long you race. If you have the room, I'd advise that you take a shot at building this fine layout. If you missed the last issue (Part One) you can obtain it by sending 50¢ to Back Order Dept., MODEL CAR SCIENCE Magazine, 131 Barrington Place, Los Angeles, California 90049. Ask for the February, 1969 issue.

Next issue promises to be an exciting one. See you then.

The AMT George Montgomery '33 Willys kit looked so good that I figured it could be made into a neat-looking street rod. All that is required is some switching around to incorporate a few street-machine goodies in place of the race car parts and man, what a goovy rod!

I decided to go with the Corvette rear end to give our rod the up-to-date look. Some rodders are using this setup on the real thing and they really look sharp. I thought while we were using the Corvette kit for the rear end, why not use the 427 Chevy engine.

I worked over the Weber carbs using aluminum tubing for the stacks. The carbs do not have covers over the top and the plastic tubes do not look realistic enough for hollow stacks. The carbs were painted with darkened flat aluminum paint. To make this color, simply mix some flat black with flat aluminum.

You can use either the AMT '69 Corvette or MPC's Mako Shark or '69 Corvette kit. All three have the separate rear end and a good engine that can be used. The bumpers are from AMT's '37 Chevy kit and are perfect for size and clean appearance.

The model is bright red with a flat black top inset which duplicates the stock cloth top. Flat black was also used for the upholstery. The entire inside of the body and hood were painted gloss black.

You may not make all the changes as shown here, you may even have some ideas to use along with ours. It's just like building a real hot rod, everyone has his own ideas about what goes into a sharp rod. All I can say is to look the article over, then decide how you'll build your street rod using this fine kit as a starting point.

1) Saw off rear spring locating tabs from both frame rails. File the sawed area and sides of rail to remove all traces of tabs.

2) Corvette rear has been assembled and detailed. Now it can be fitted to the Willys frame.

3) The crossmember from the Corvette chassis is needed to mount the 'Vette rear end. Measure a 1 1/2-inch section which will be removed.

4) Carefully saw out section of crossmember as marked. Use either a razor or jeweler's saw. A piece of plastic tree may be substituted for a crossmember if you can find one with proper contour. This saves cutting up Corvette chassis.

5) First chassis was sprayed with silver undercoat. Then the frame rails were brushed with gloss black. Work carefully and don't get any black on the floor pan.

6) To add more realism to the front axle, drill holes where the simulated ones are cast.

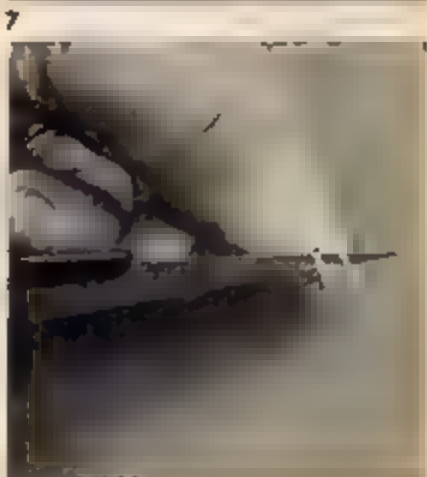
7) Saw off the top portion of the Weber carburetors. These will be replaced with 3/32-inch aluminum tubing.

8) Hold the aluminum with one hand and trim out the end with the point of a modeling knife. This thins the wall thickness and makes it look more like 1/25th scale.

9) Front and rear axle are glued into place. Corvette engine is fitted with the reworked Weber carbs. Aluminum tubing is glued on top of carbs for more realism.

10) Cut out the inside portion of the fuel/water tank, leaving the outer edges and top.

15/Model Car Science



Convert AMT's Willys from a drag racer to a Corvette-powered street machine.

'33 WILLYS STREET ROD

11) Very fine gauge screen wire has been cut to fill in center area. Two pieces are used, one on each side.

12) Screen makes radiator look very real. Now it should be sprayed flat black. When dry, glue to top of front crossmember.

13) Cut a piece of plastic from sheet plastic and check the fit. When the piece fits exactly, glue it in place.

14) After glue has dried, spread on a small amount of putty. The type shown works well.

15) Use a small flat file to remove the excess putty. Be sure to file the putty so the ridge continues back into filled section.

16) Here you can see just how the puttied hood should look after it's finished.

By Don Emmons

Photos by the author

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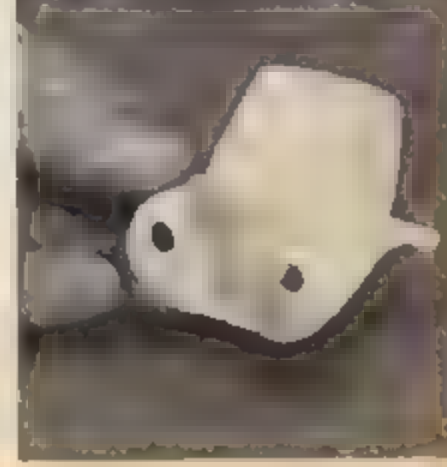
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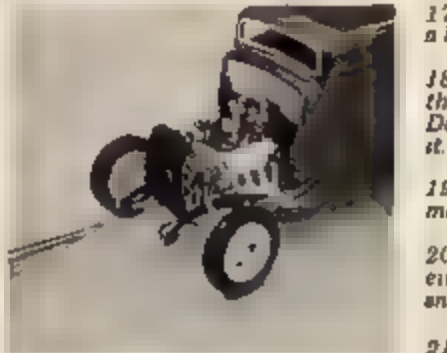
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17) To cut out center portion of grille, drill a hole near the outside edge.

18) Place the blade of jewelers saw through the hole and carefully cut out the grille area. Do not cut any of the raised edges around it.

19) Hold the hood on fine screen wire and mark the outline of grille area.

20) Be sure to cut outside the line. Use either an old pair of scissors or small tin snips.

21) Measure 1/16-inch up from top edge of spare tire recess and mark across the deck area.

22) Glue in lower portion, making sure that bottom edges of the body are even across the back. Paint the body pieces.

23) Front bumper brackets were made of wire. They should be bent as shown to allow front end to hinge open.

24) Glue brackets to top of frame rails. Set hood unit in place to check where brackets clear hood, when open.

25) Chassis and body are complete and now body can be fitted in place. Note that radiator and bumper are glued into place.

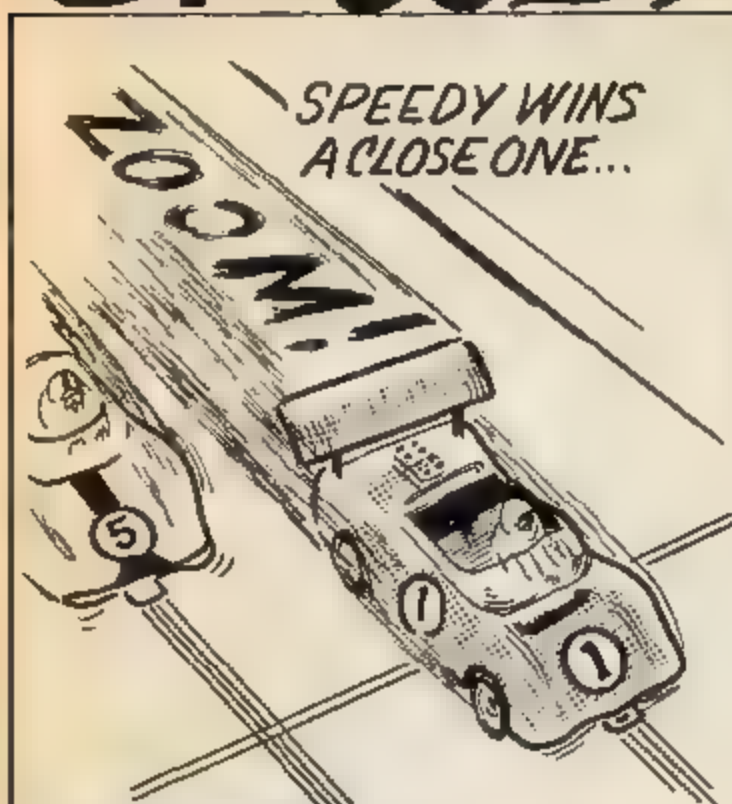
26) The edge around grille opening and the screen were painted silver. When gluing the door handles on, use as little glue as possible.

27) Wired engine sports sewing thread for fuel lines and plug wires. Radiator hose is from Corvette engine but was shortened.

28) Corvette rear end can be seen under the body. '37 Chevy bumpers are used and license plate is mounted in center of spare tire recess. Aluminum tubing was used for exhaust pipe tips.

SPEEDY

by Puckett





To paint and detail any clear plastic body you'll need the special Ulrich paint for clear plastic bodies or Testor's "TCL" paint, decals to suit, brushes, black waterproof ink, and body



Check fit of body over chassis. The wheelbase of the chassis must be adjusted to fit the centers of the wheel cutouts.

The Body Beautiful

The best way to paint and mount clear plastic bodies

It is next to impossible for the home set and/or kit manufacturers to keep up with the very latest sports racing car designs. By the time a molded, solid, plastic body is tooled and produced, a new racing car design has made the car obsolete. As a result, only the clear plastic body makers offer the up-to-date model bodies. The production costs and the time needed to tool for production of a clear plastic body is but a fraction of that needed for a solid plastic body like those furnished in most 1/32 scale home racing sets. Fortunately most of the home set chassis and 1/32 scale car kit chassis are easily adapted to mount one of the most up-to-the-minute clear plastic bodies.

The clear plastic bodies are vacuum formed of thick and resilient Butyrate plastic in this country. The material looks like the type of clear plastic that some parts and hardware items are packed in. In some cases, the "skin pack" clear plastic packages are, indeed, Butyrate plastic, but the material used to form model car bodies is far thicker.

The latest techniques in body forming allow body makers like Lancer, Ruskit, Dynamic, and DuBro to produce finely detailed bodies that rival the injection-molded styrene or polypropylene bodies furnished in 1/32 scale kits and home sets. The only major disadvantage of the clear plastic bodies is their lack of color and body mounting provisions. Usually, the clear plastic bodies must be trimmed to fit the wheel size of your chassis and the center of the cockpit must be cut away as well. None of the trimming, fitting, mounting, or painting steps require any great amount of skill. Once learned, these techniques can be quickly adapted to allow the use of almost any clear plastic body on any 1/32 scale home set or kit chassis.

We chose the very latest 1/32 McLaren Mark 8 clear plastic body from Lancer, and the well-designed Monogram 1/32 scale kit chassis for these photos. If you want to model the current Can-Am sports-racing cars for your 1/32 scale racing stable you should learn these clear plastic body mounting/painting tips now.

Robert Schieffler



Painting



The wheel cutouts on this Lancer McLaren Mark 8 body need to be enlarged to clear the tires on the Monogram chassis. Use an X-Acto hand grinder or siver away fine slices of each cutout with a hobby knife.



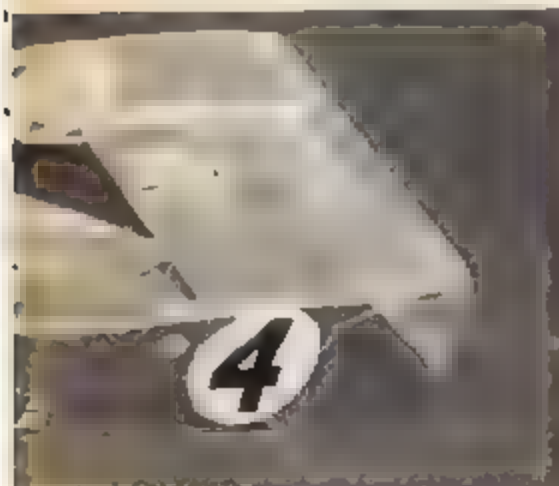
The front scoop on the McLaren fouled the top of the pickup and the chassis so the edges of the scoop were slit so it could be folded up about 1/16" to clear chassis.



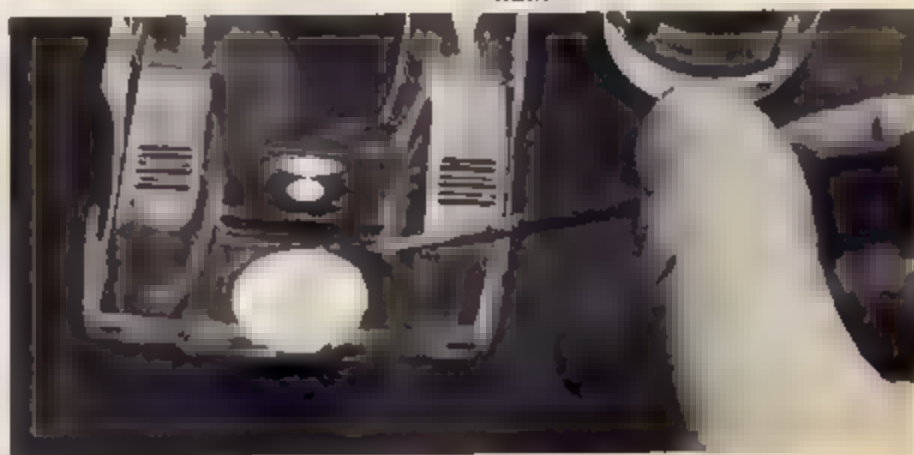
Lancer McLaren Mark 8 has been trimmed to fit the Monogram chassis. Wheels, here, are old Dynamic, but stock kit items are same size. Cockpit cover in body must also be trimmed.



Decals are applied to INSIDE of body. Soak decal free of paper backing, dip the decal only into water to dissolve any glue from its back side. Rub FACE of decal on gummed, wet, decal paper and then position inside car and blot away excess water with Kleenex tissue.



Apply ALL decals, including both numbers and small sponsor decals, inside body and check their location from outside.



Paint only the edges of each decal with clear paint for clear plastic bodies to seal its edge so final body color cannot creep under decal edge later.



Use a #0 brush to begin applying final body color after clear decal paint has dried overnight. Start around edges of decal and windows. Do NOT paint decals.



A #4 or larger brush is used to flow on a thick coat of the final body color to other areas of the body. Allow this to dry overnight, then apply a protective coat of clear paint to decal backs.



Scoops and body vents can be cut open, but this weakens body and it may split later. A coat of flat black paint on the OUTSIDE of body will make these areas appear to be open. Accent joints between body panels by scribing with a knife tip, flowing in black ink, then wipe away excess ink.



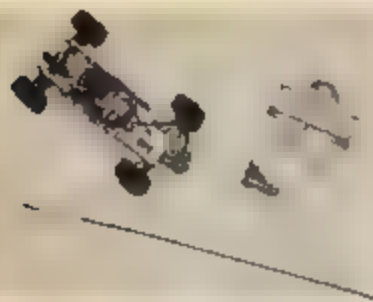
Lancer furnishes driver with each body. This one is cut from Monogram interior, glued to flat black paper. Intake stacks are from old display model, but brass tube could be used. Rollbar is bent paperclip. Tape all inside body.



Lancer clear plastic body, correctly painted and detailed, can transform any set or kit car into the very latest 1/32 scale Can-Am-Champion McLaren Mark 8. Following pages offer some ideas on mounting clear bodies to any chassis.



Body Mounting



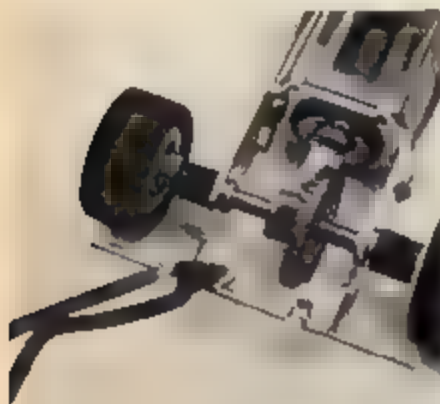
Mounting a clear plastic body can be simple indeed. All you'll need to fit the Monogram 1/32 scale kit chassis are straight pins, 1/16" K&S brass tube, and a #43 package of Buzco 4/40x4" screws and nuts.



About 1/16" of Monogram rear body mount tabs must be filed away to clear inside rear edge of McLaren's short tail.



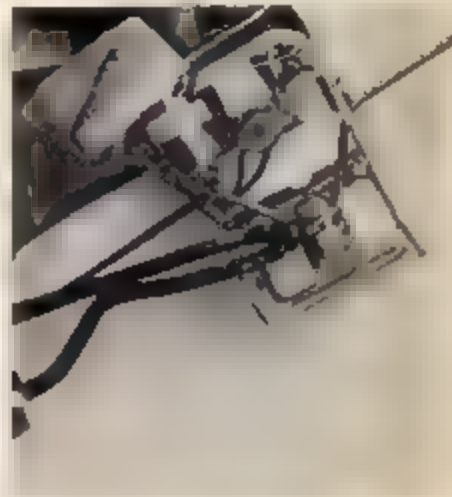
Attach one of the Buzco 4/40x4" screws and nuts through each hole in the Monogram rear body mounting plate.



A 2" piece of 1/16" K&S brass tube will just fit inside one of the rear body ridges on the Mark 8 McLaren. Solder to the nuts **ONLY** in the rear bracket.



Bend a 4" piece of the 1/16" brass tube into the shape shown. Width of vee should equal width of Monogram chassis.



Attach another of the 4/40x4" screws and nuts to the front of the chassis as shown and solder bottom of vee in tube to nut.



Lay chassis in body and mark where ends of tube must be cut to be about 1/32" narrower than body sides. Cut off excess.



Body ridge retains body at rear of chassis. Straight pins are driven through sides of body into 1/16" brass tube. Be sure body is level on chassis before driving pins.



Cut pins to 1/4" length and bend in the "ess" shape shown so they will be a "force fit" inside 1/16" brass tube.

The "way out" hobby!

By Michael Post

What is this Space Age activity that lets you duplicate, on a smaller scale, our nation's space program, and with much the same results? The one that is less expensive than slot racing, yet provides just as many, or more, thrills-per-dollar? It's model astronautics, alias Model Rocketry. And it's a literal blast!

This action packed hobby is centered about the design, construction and flight of small aerospace vehicles that can easily reach altitudes of several thousand feet while approaching the speed of sound! Just like their big brothers at the Cape, model rockets are launched from "pads" by means of a remote electrical ignition system. Every flight is as thrilling as the first, and the rockets can be recovered by parachute to be used again and again.

The best thing about model rocketry is that it is the safest form of non-professional rocketry around. It has been recognized as such by NASA, the U.S. Air Force, and the AIAA (American Institute of Aeronautics and Astronautics). These people know what they are talking about because they are the nation's rocket pros.

Let's look into the design of a model rocket. Its heart is the small but very efficient model rocket engine. This is a pre-manufactured propulsion unit that burns a solid propellant fuel. Although each engine can be used only once, they are relatively inexpensive—25-50 cents apiece average—and are available in a wide variety of performance classes. Maximum thrusts range from 22 ounces to over 36 pounds. And some engines can burn for as long as 10 seconds while others will fire for only 24/100ths of a second. There are many types to choose from to suit your particular need.

An experimental multi-engine model rocket leaves its launch position and heads skyward.

MODEL ROCKETRY

The models are constructed of balsa wood, laminated paper, and plastic components. No substantial metal parts are incorporated into model rocket design, yet the air frames are very rigid and can withstand the tremendous forces imposed on them during flight. Model rockets are not really all that hard to assemble, but once you start in on a couple of the commercially available scale model kits you'll see how tough it can get!

If you are interested in model rocketry, why not get started by laying your hands on a model rocket or two. The best way to get information on the rockets and associated supplies is to write to the companies that specialize in the hobby. Several of these firms advertise in this magazine. Just request a catalog and send along 25¢ to cover the cost involved. Once you get the material you'll have a hard time deciding what you want to spend your money on first! Basically, what you will need is a model, some engines and a launching system. All of this can be purchased in a package deal if you order an Estes DSK-65 Starter Outfit (\$6.50), or a Centuri SK 125 Beginner's Outfit (\$6.95). These are top-notch sets and are well worth the price, as the equipment and models can be used for years.

As you learn more about model rocketry, you'll probably want to build more advanced vehicles. Don't go overboard, however. Make sure that you understand how a multi-stage bird or a cluster beast works before you fly one. Same goes for boost gliders (B/G's). They are very complex model rockets (ascend like a rocket but glide back) that require an experienced hand to build and fly.

Where can you go from there? Well, after you've flown a few models you may meet someone else who is interested in the hobby. This may lead to organized model rocketry if you want to form a club in your area. Or you could join one that is already active and close to where you live. By becoming a member of a club, you have an excellent chance to learn more about your hobby while making it more enjoyable. Over 3,000 rocketeers around the country are members of an organization known as the National Association of Rocketry (NAR). Membership in this group is a privilege and can help you in your activities as a rocketeer. Info can be had by writing to NAR, Dept. MCS, 1239 Vermont Ave., Washington, D.C. 20005.

One of the most exciting parts of organized model rocketry is competition. Regular meets are held the year round on local, area, regional, national and international levels. Much of this competition is sanctioned by NAR for national standing. Separate and combined events are based on the altitude, parachute or glide duration, and landing accuracy capabilities of entries, while scale model characteristics, Concours, are judged in others. There's even an Egg-Loft altitude event under the 1967 NAR rules! One of the messier events for sure.

What's more, model rocketry can be used as the basis of an award-winning science project for school, or otherwise. Model rocketry can also lead to a rewarding career in some related field of science or industry. Many modelers have gone on in life to become engineers or aerospace specialists as a result of the influence of their flight-orientated hobbies. And model rocketry will provide you with an excellent initial background if you have your sights set on becoming an astronaut or pilot in the future.

So, join the ranks of America's youth space effort! Give model rocketry a try. See if you don't get hooked on it too!



This radio transmitter carrying model is returning from a high-altitude test flight by means of a ten-foot long streamer recovery device. A chute would cause excessive wind drift.

Action on the pad at a recent competition meet of the NAR Southland Section of L.A. at their mile square firing site. A scale Tomhawk is lifting off



Southland members are shown as they ready their models on the group's 10-position launch rack. With a club ignition system, you don't have to use your own.



Above are a few examples of commonly used model rocket engines. Like any other piece of quality equipment, you should treat them with respect and care.



The real thing? Nope, this is a 1/45th scale model of the NASA Little Joe II vehicle. General Dynamics builds the actual bird, Centuri produces the beautiful model in kit form. It's a real challenge to build!

This man is an aerodynamicist at Ohio State University. And he is a model rocketeer, shown here making a Research and Development presentation at the 1968 National Model Rocket Meet (NARAM-10) held at a NASA installation in Virginia last August. Younger NAR members at this meet outnumbered adults by almost 2 to 1!



FINAL 1968 MCS/USRA ROAD RACE

Our final race of the 1968 season was for inline G.P.'s. Remember them? They were the most popular type car about two years ago. Everybody then wanted to race G.P.'s and nobody wanted to run the big heavy four ounce sports cars. Add two years and the picture has completely changed. Now everybody wants to race their six plus oz sports cars and nobody even has an inline G.P. left in their possession. In spite of this we still had a pretty fair turn out for both the amateur and the separate pro races. Much of this was due to the fact that we had the race on the smoothest track in Southern Calif. Jim Gallagher, owner of J & J Raceway, had just removed the tape from the track

and installed sunken braid. He had also sanded the whole track and repainted it with an epoxy paint. This smooth glossy surface gives the best traction of any type surface. This helped to ease the pain of running inline G.P.'s. At least it was a pain for most of us, especially after having run the sidewinders for most of the last year. But there was at least one guy looking forward to running these inlines—Doug Henline. And well he should as he had won the previous G.P. race this year as well as both of the CAR MODEL G.P. races last year. But four in a row? Impossible! But you couldn't find anyone to bet against it. Doug's

and it was a great season! By Gene Hastings

hopes did dim quite a bit though in qualifying. On one of his warm up laps he hit the bank wall and broke his pickup. With no timed laps he was forced to start in the slowest consie and work his way up. He had company, as Terry Schmid was not present when his turn came to qualify so he also started with Doug. The two of them sewed up first and second places in all the consies which allowed no one else to move up. Mike Morrissey finally put a halt to this by taking a well deserved win in the semi. Mike is starting to do a lot more driving now and is beginning to look like his old self again, when he was "King of the Hill" as captain of Team Russkit. He is also at present, the complete new Team Russkit. It's good to see them getting back in racing. The main event boiled down to a three man race, and a very tight race, but somehow, it must have been decreed from above, that this last of the inline races belonged to Doug Henline. Doug won four of the eight heats. His stiffest competition came from John Anderson, who had set quickest time. This has been an off year for John, but it looks like he's found the right groove again now. Mike Steube was right behind John, taking third place. Fourth place went to Mike Morrissey. And right here and now I want the whole world to know that Mike Morrissey ran Orange Associated tires! Welcome to the fold, Mike. You are now a full fledged 100% racer. Mike was one of the last holdouts for 1" black rear tires. But as soon as he heard the new Associated and Rigger orange tires were working better than 95% of the blue tires, he said 'Who cares what color they are? Let me try them.'

Photos by Al Hall



SEMI MAIN

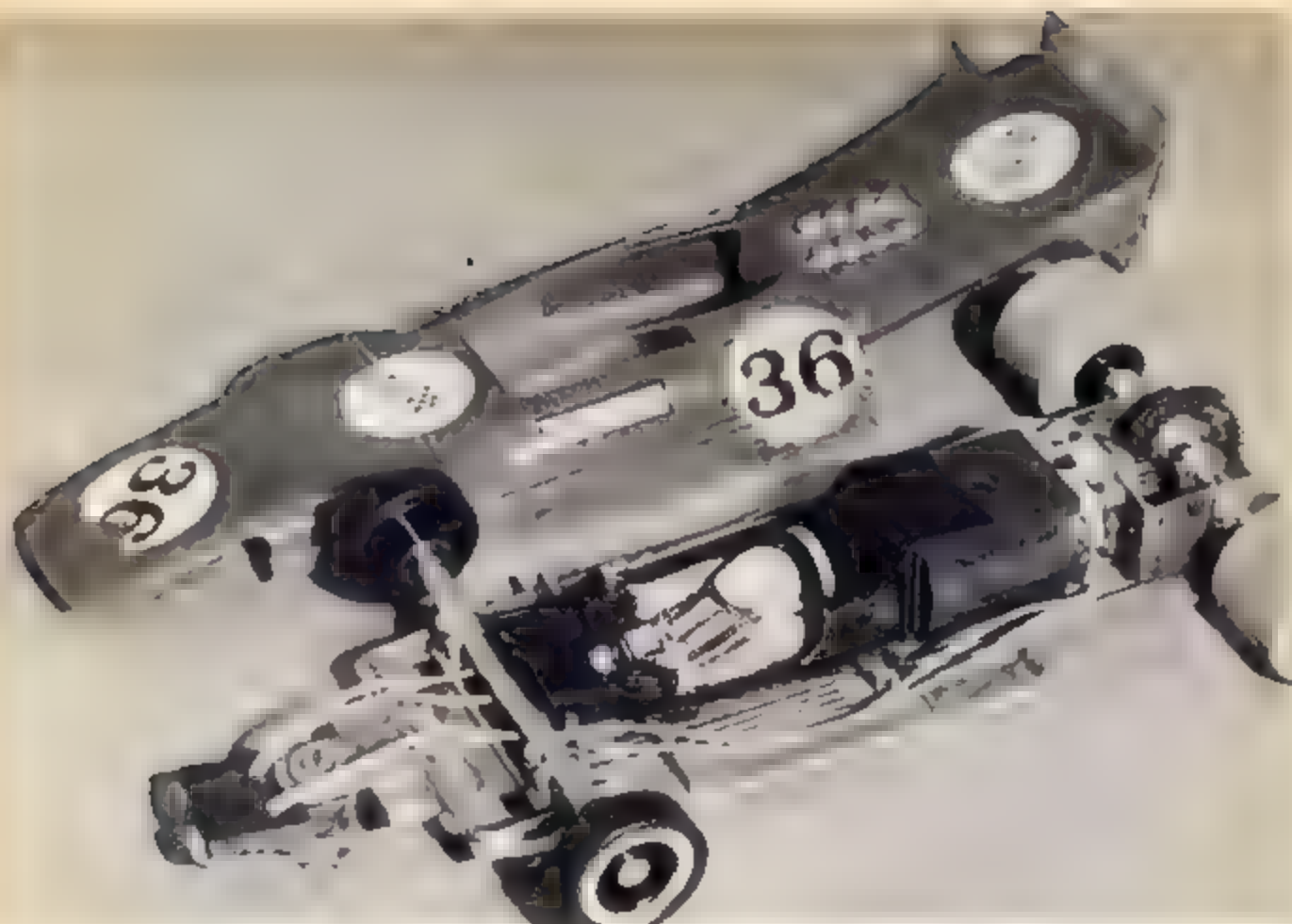
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CONTRIBUTORS

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RIGGEN

Doug Henline's main event winning Lancer Lotus 498 powered by a Steube motor. Motor features a Mura can, shim, magnets, white endbell, Steube wound .007 armature with balancing by Thorpe Rigger tires and wheels on the front with Rigger wheels and blue Associated tires on the rear. The chassis Doug built features the plumbers made of 1/16" plate brass and mounted on the drop arm. Main chassis rails are 1/16" round brass rod. An abundance of lead added to the drop arm and rear of the plumbers brings the car's weight up to six ounces.



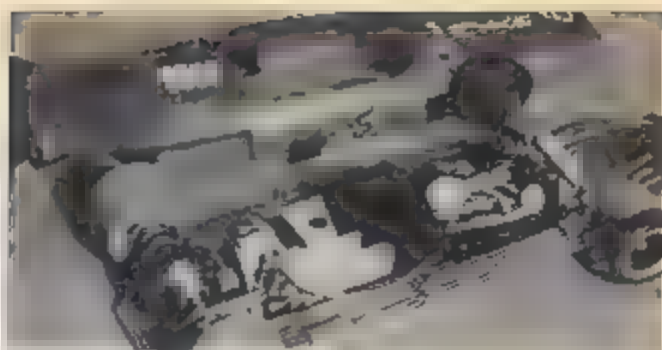
John Anderson set quick time and took 2nd in the main with his Ferrari. John used a wing to make the air add a downward pressure on the rear tires to give better traction in the corners. Take a close look at his Pete Zimmerman motor and you'll notice an extra long slotted hole cut in the case near the endbell. This aids in motor cooling and doesn't seem to hurt the magnetism.



Third place in the main went to Mike Steube's Honda Power was naturally by Steube. Mike has been building sidewinder chassis for so long now he said it was actually harder and took longer for him to build this inline chassis than one of his production sidewinders that he's all set up for. Times change



Mike Morrissey's Cooper Maserati by Russkit. Russkit is starting to make our kind of bodies again. Thanks, from all of us, Jim, Mike did quite a bit of experimenting with and without his wing and he felt it actually did give him a better lap time with the wing on. Mike used a stock production Mura #28 wire motor for power



Terry Schmid took fifth place in the main with his Lotus 49B. Terry is naturally powered by Mura. After being Driver of the Year in 1966 and 1967, Terry finished in second place in 1968, a truly fantastic feat. Most of the celebrated top drivers feel that they're, for some unknown reason, too good to turn marshal. Terry never has to be asked to take his turn at marshaling, he's always right there and at the hardest turn yet, doing a super-quick and efficient job, being able to put two cars back in quicker than most marshals could put one in. For this reason and for the third year in a row, my vote for "Turn Marshal of the Year" again goes to Terry Schmid, a real credit to our sport.

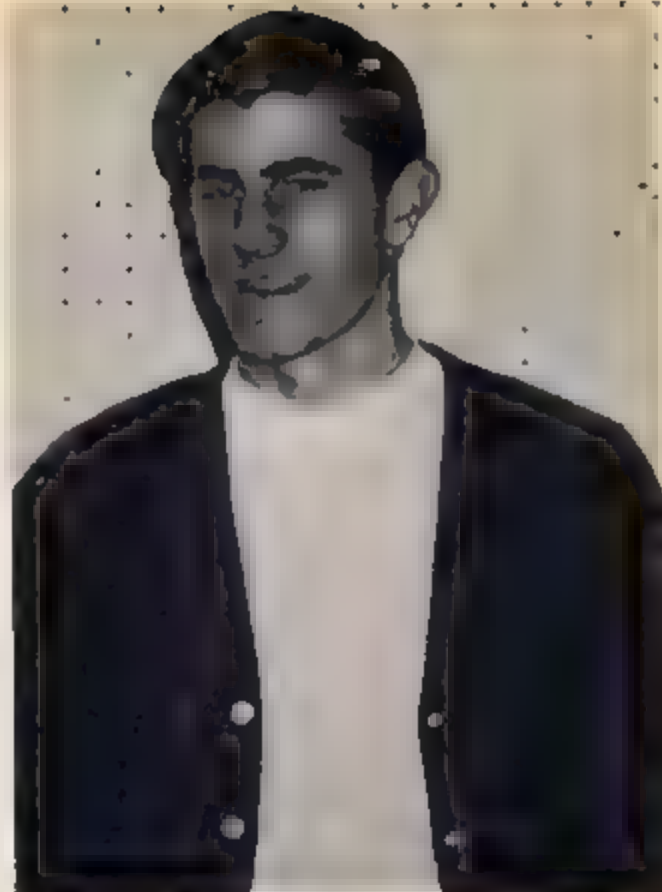


Top Concoours honors went to this beautifully detailed Cooper Maserati by Don Arnedo. Our rules require that a car must be in the top 20 fastest in qualifying to be eligible for Concoours. This means our Concoours winners are also genuine race cars

NAME	TEAM	E.T.	LAPS	BODY TYPE	MOTOR	REWIND TURNS & WIRE	MAGNETS	COMMUTATOR
1 DOUG HENLINE	CHECKPOINT		194	LANCER LOTUS 49B	STEUBE	-25	MURA	THORP
2 JOHN ANDERSON	ZIMMERMAN	6.51	192	FERRARI	ZIMMERMAN	28-25	MURA	MURA
3 MIKE STEUBE	CHECKPOINT	6.57	181	HONDA	STEUBE	25	MURA	THORP
4 MIKE MORRISSEY	RUSKIT	6.63	188	RUSKIT COOPER MASERATI	MURA	25	MURA	MURA
5 TERRY SCHMID	MURA		187	DYNAMIC LOTUS 49B	MURA	25	MURA	MURA
6 BRUCE ERICKSON	DYNAMIC	6.71	164	DYNAMIC HONDA	ZIMMERMAN DYNAMIC	25	DYNAMIC	LENZ
7 BERNIE ERTRACHTER	ZIMMERMAN	6.67	183	HONDA	ZIMMERMAN	25	MURA	MURA
8 PHIL RUBIN	MURA	6.83	19	DYNAMIC HONDA	MURA	25	MURA	MURA



The inscription on this beautiful cup being presented to Mike Steube, on the left, by Gene Husting for MODEL CAR SCIENCE Magazine reads "U.S.R.A.-MODEL CAR SCIENCE-Los Angeles Championships-Driver of the Year-Mike Steube-1968." In the toughest competition in the world it's a great honor to be named Number One, and Mike really earned it. He also won the California Area race and right here I'd really like to thank Champions Jack Lane and Bob Rule for presenting one of the best races ever run in Southern Calif. Not only in these important magazine sponsored races has Mike emerged as Number One, but in the week in and week out racing everyone knows that Mike Steube is the one they'll have to beat to win a race. Congratulations, Mike.



Doug "inline" Henline winner of the main event and the staunchest support of "Inlines forever!" I guess I'd feel that way too if I'd won the last four inline G.P. races as Doug has. Talk about a monopoly! The only way we could beat him was to legalize sidewinder G.P.'s for 1969. Doug says he's not as good with sidewinders as with inlines, but I'll have to wait and see about that.

FRONT WHEELS	FRONT TIRES	REAR WHEELS	REAR TIRES	TIRE GOOP	GEARS & GEAR RATIO TO 1	CONTROLLER	PICKUP
RIGGEN	RIGGEN	RIGGEN	BLUE ASSOCIATED	OWN	WELDON 4.8	PARMA RUSSKIT	COX
RIGGEN	RIGGEN	RIGGEN	ORANGE RIGGEN	OWN	WELDON 5.0	RUSSKIT	COBRA
ASSOCIATED	ASSOCIATED	ASSOCIATED	STEUBE-BLUE ASSOCIATED	OWN	RIGGEN 4.8	PARMA MICRO RUSSKIT	COX
ASSOCIATED	ASSOCIATED	ASSOCIATED	ORANGE ASSOCIATED	MOD 3	RUSSKIT 4.8	RUSSKIT	DYNAMIC
ASSOCIATED	ASSOCIATED	ASSOCIATED	ORANGE ASSOCIATED	MURA	WELDON 4.8	PARMA RUSSKIT	COX
DYNAMIC	-----	DYNAMIC	BLUE DYNAMIC	MOD 3	WELDON 5.0	PARMA RUSSKIT	DYNAMIC
RVM	RVM	ASSOCIATED	STEUBE-ORANGE ASSOCIATED	MOD 3	WELDON 4.8	PARMA RUSSKIT	COX
RIGGEN	RIGGEN	RIGGEN	ORANGE RIGGEN	MOD 3	WELDON 4.8	PARMA RUSSKIT	RENCO

This one's for advanced modelers only, probably one of the most ambitious undertakings in the history of model car building!

SUPER CUSTOMIZING MONOGRAM'S "E" JAG

By Dennis Doty

PART I



This is a long article. If you follow along in Monogram's 1/8 scale, or in 1/24 scale, you will find this custom to be rather expensive, but well worth the time and money invested. This article was written to expand the average modeler's ability, and in the long run, expand the detailing of model cars in general. Choosing Monogram's Jaguar was natural, because I feel it was the most challenging model.

The Monogram engine kit in this article has been discontinued by Monogram, so you will have to buy a Monogram Big "T" kit for the engine and hand make a transaxle and working shifter.

GENERAL BUILDING TIPS

Draw a line on a file card, set a compass for more than half the length of the line, place the compass at one end of the line and draw a half circle. Place the compass on the other end of the line and draw another half circle. Where these half circles meet to form an "X", draw a line through them. This line is exactly 90° to the first line drawn. This is the base to set up all the suspension member patterns.

All suspension pieces have 3/16" long 3/16" tubing on the ends, cut them all at the same time. Cut 3/16" aluminum tubing the width of the gaps in the suspension arms for uniformity in soldering.

Slip the 3/16" tubing and spacers on lengths of 5/32" aluminum tubing. Attach these to the pattern for soldering with straight pins. Square brass tubing can be used as a guide to insert the pins.

Both sides of the pieces should be soldered for the most strength. If any joints need filling, get a blob of solder on the tip and "wipe" the solder off into the low spot. Don't unsolder anything.

If you can't drill a 3/16" hole in the rear axle carrier pattern, drill the largest hole you can, and use aluminum tubing to build up to the 3/16" brass tube.

Use the slot racing wrench that comes in the Monogram kits as a guide for filing down the nuts for the 1/8" bolts.

A piece of plywood and wall-board 9" by 24" are glued together to make

the frame soldering block for the custom Monogram body. Draw the frame out on a piece of paper and pin it to the block.

To get measurements for attaching suspension mounts other than mentioned, wire the mounts in place to line them up. 1/24 scale mounts are strips of brass. To keep the mounting block exactly spaced, use aluminum tubing.

When soldering anything close to another joint, use heat sinks to draw off the heat.

Attach the "A" arms to the frame, insert the 5/32" tube through the large "T" of the spindle. Apply epoxy to the inside of the top and bottom spindle; wipe off any excess. Install the spindle on the "A" arms.

The height of the frame off the ground is 1". Use 1" thick balsa to position it while working on the frame.

If you can't obtain a Monogram Customizing engine kit, hand make a transaxle. To drill a hole for the axle, install the "H" arms and the engine, drill the hole. Insert 5/32" tubing

through transaxle and 3/16" tubing through the axle carriers to position the transaxle. If there is any gap between the transaxle and the engine bell housing, fill it with scrap plastic. Leave one end open to get at the axle and shifter for now.

When ever you heat mold, keep a damp cloth in back of the work area to prevent warping or shrinking.

Melt the trees in position by first applying the hot tip to the body, then touch the tree to the tip. Push the tree into the body, then smooth down the plastic.

Heat mold plastic to low spots on the outside and inside of the body. Sand the molded plastic down with 100 grit sandpaper; use a mending block. Fill all imperfections on the reworked Monogram body with putty.

To measure around a curve, mark off a file card using a ruler for the needed dimensions. Place the end of the card at the starting mark and transfer the measurement to the Monogram body.

To make templates, mark a file card every 1/4". Transfer the measurements to the Monogram hood starting 2" from the back, near the bubble. Mark both sides exactly alike.

Make the templates in pieces, one piece for each different curve. Place the curve pieces on the body and tape them together. With the templates in position, body and frame positioned off the ground, tape a file card to the template. File card should rest flat on the ground. You can now check to see if the other side is high enough as well as the correct shape.

After shaping the wheel well, remove the wire used to outline it. Wrap sandpaper around tires to finish shaping the wheel wells perfectly round.

After you grind down the excess plastic on the inside of the body, cut strips of cloth to line the inside of the Monogram body. Number the strips in order of application. Soak the strips in glue, install the strips, and add more glue if necessary. Work the glue into the cloth on the body with your fingers. Install the body on the frame while the glue dries, to prevent warping.

Wire the mini bulbs together in parallel so if one bulb burns out, the rest will stay lit. When wiring in parallel, you must keep a complete circuit.

Take one wire from each bulb and run them to another wire that leads to one end of a battery. The other bulb wire runs to another wire that leads to the other end of the battery. Cover or paint exposed wires to prevent shorts.

Study the pin switch photos carefully. The last bend in the brass strip, first switch post, is just slightly below

the pin, in the off position. When the pin is pulled on, a slight friction will keep the pin in good contact with the strip and in the on position.

Solder small lugs, with holes drilled in them for the bolts, to the ends of the wires for easier mounting. Use brass.

Run the second brake contact, brass strip, outside the modified Monogram interior. The 00-90 bolt also holds the pedal assembly in place.

The batteries are Mallory's (4.5 volts) number MN-1306 available at camera stores. To light all the bulbs, you must wire the batteries in series. Even though two batteries are used, only the head and gauge lights and turn signals are powered by both batteries. This is accomplished by the second post on the pin switch. The T.V. is run by the cowd battery, and the taillights by the frame battery. Wired in parallel, both batteries still give out a total of only 4.5 volts.

To connect anything with the one-bolt, two-auto system, slip a bolt through the hole in the work piece, install a nut, and tighten it. Install the other work piece over the bolt and install another nut; don't tighten the second nut in place. Tighten the second nut down on electrical wiring.

Assemble the rear axle by epoxying the two pieces of 3/16" tubing 3/16" long (with the holes in them) to the 1-5/8" long 5/32" tube (already spoxed to the transaxle). Epoxy one piece of 3/16" long 3/16" tubing (without the holes to each end of the 1-5/8" long 5/32" tubing (posts pointing away from each other). Epoxy the 1/8" tubing to the inside of the 1-13/16" length of 5/32" tubing, don't get epoxy on the bolts, or anything that will stop the axle from moving. In 1/24 scale, start with 1/16" tubing.

If you can't obtain the H.O. springs for the gas pedal, watch band springs will work. The large spring can come from a cheap cable release, (camera store) but is rather stiff.

If you install the linkage for the gas and shift to make sure they work, before final assembly of the Monogram model, install new wire during final assembly. Epoxy the 1/16" linkage tubing to the interior; this also will hold the springs in place.

Run a wire from the oil temperature gauge to a hole in the oil pan, a wire from the water temperature gauge to a hole in the front of the block near the intake manifold, a wire from the oil pressure gauge to the back of the block, a wire from the tachometer to the coil, from the Monogram Jaguar kit, then back to the gauge, a wire from the gas gauge to the gas tank, and a line from the transaxle to the speed-

ometer. Small wire is used for the speedometer and gas line, copper for the others. Install wires after the Monogram engine is installed.

The radiator hose is obtained from an outboard motor repair shop or auto supply shop.

The 5/32" tubing and 3/16" long 3/16" tubing for the shock pieces are short, but they must be filed to butt against the 1/4" long 3/16" tubing to insure a strong joint. The 5/32" tubing for the bottom shock pieces should be soldered to the center of the 1/4" long 3/16" tube; 3/16" and 5/32" aluminum tubing to build it up for soldering. Ball point pen springs are used for the suspension springs in 1/24 scale.

The helper springs are from a hardware store. They should be cut slightly longer than the distance between the bottom shock piece and the 7/32" tubing. Add as many final parts to the body and chassis to bring the model to near final weight for shock adjustment. Adjust the shocks by filing metal off the 7/32" tube on the side that is too high. Cut a new tube if one side is much too low.

The bottom 3/16" tube on the shocks and the 5/32" tubing for the 1/8" bolts should not be painted, as the paint will just chip off.

To correctly position the front disc brakes the Monogram wheels and knock offs must be in place.

Correct painting of the reworked

Price List for Monogram Jaguar

PARTS LIST

- 1-Monogram Jaguar kit PC91
- 1-Monogram Bag "T" PC72 (for engine)
- 5-3/16" brass tubing
- 3-3/32" brass tubing
- 3-1/8" brass tubing
- 8-5/32" brass tubing
- 11-3/16" brass tubing
- 13 7/32" brass tubing
- Aluminum tubing for soldering jig
- 2 7/32" square brass tubing
- 40 plus-1/8" nuts and bolts
- 6-packages 00-90 nuts
- 5-pkgs. 00-90 bolts-3/8" hex head
- 3-pkgs. 0-80 nuts
- 2-pkgs. 0-80 bolts-1/2" hex head
- 1 pkg. 2-56 nuts & bolts-1/2" hex head
- 1 pkg. 0-80 bolts 3/8" round head
- 1-package grille screen* (4by6" \$1.00)
- 1-chrome mylar sheet* (30" each)
- 1-sheet .020" plastic* (20" each)
- 2-.015" piano wire* (5¢ each)
- 2-.020" piano wire* (5¢ each)
- Several springs to fit over 3/16" tubing
- 1-pkg. H.O. railroad springs

*These items are available in Mail order only from Orange Blossom Hobbies, Inc. 1975 N.W. 36th St., Miami, Fla. 33142

PART I

Monogram body is no easy chore. First paint the necessary areas flat black. When dry, mask off all areas to remain black, wet sand the interior (of the body) then paint the interior of the Monogram body. Several coats of Testor Dulcocoat will protect it. Mask the interior off. Paint all the edges of the body that will be covered (around the hoods, door jambs, etc.) when the body pieces are in place, same color as the body. After drying, wet sand the Monogram body. Install the body pieces and paint the body as a unit for best color uniformity. Touch up the edges if needed, spray a "puddle" of paint on a file card and brush it on.

Cut the grille screen $\frac{1}{4}$ " wider, all the way around, than the grille openings. Mist on a coat of silver to prevent filling in the openings. Scrape the paint off around the grille opening, on the inside. Spread a ribbon of glue around the openings and set the screen in place. The glue should ooze through the screen; don't get glue on any visible part of the screen. Hold the screen in place until the glue sets.

If you wish to install the steering column and stock Monogram steering wheel at one time, leave the left seat out until these are in place.

The jacks are from Monogram's Big "T" kit. The large jack in the kit is cut down to the size of the small jack.

There it is, if you follow the article exactly you should now be finished. It is a lot of work, having put 743 hours and 40 minutes into its construction, but even if you don't chose to exactly duplicate this Monogram Jaguar article, all the features of this article apply to any model car you are building. And, before saying you couldn't do the work, give it a try, it is easier than you may think. Good building.

SPECIAL THANKS

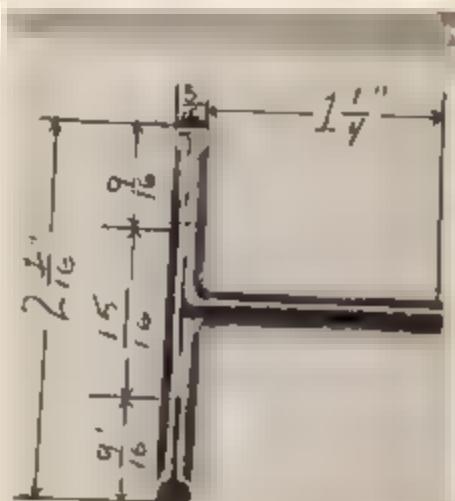
In closing, I would like to thank the following people for their help in trying to locate a supplier for the Monogram Engine. America's Hobby Center, Auto World, Orange Blossom, and especially Polks Hobbies for calling me with the needed information, also Monogram Models, and Mr. Ray Hoy of MCS.



To make sure everything lines up perfectly, start with a pattern that has two lines, 90° angle to each other



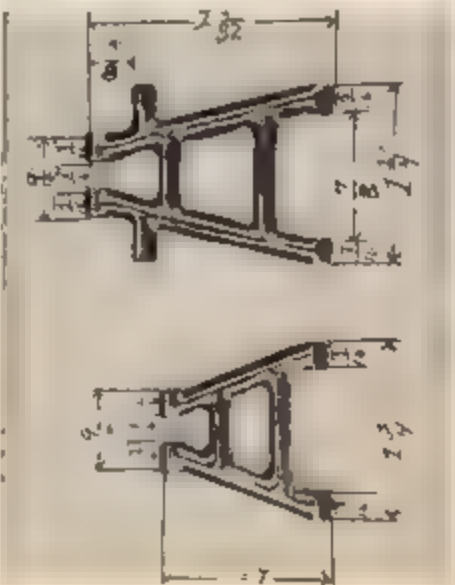
Start the front spindle by making a "T" out of 3/16" tubing. Use a jig, as shown, to insure a perfect 90° angle.



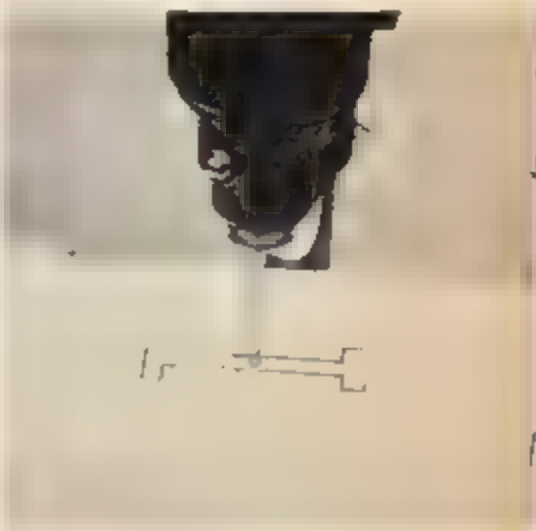
Dimensions of the front spindle. Cut a length of 5/32" tubing to fit inside the spindle to hold it together



Use the dimensions given in the next photo to set up the "A" arms. Tubing on large "A" arms is for the shocks



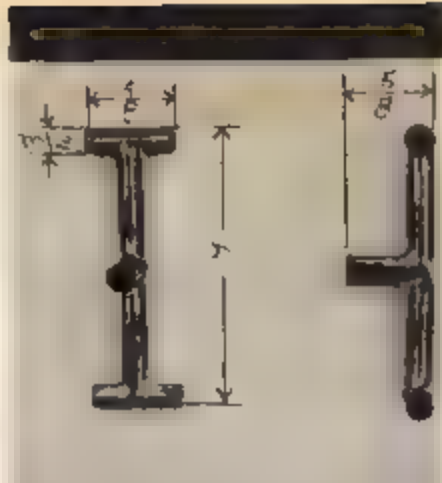
Dimensions for the upper and lower "A" arms



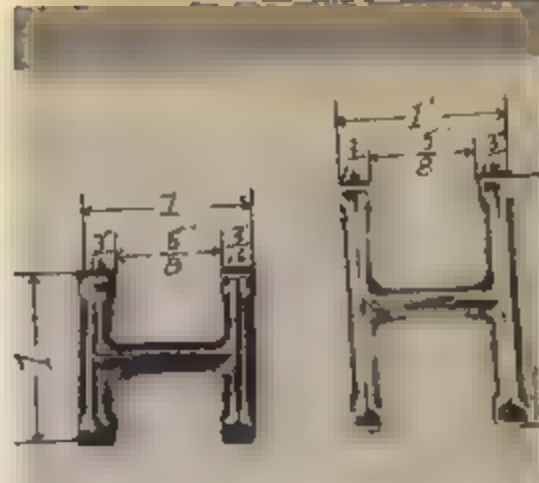
Make a soldering pattern to make the rear axle carriers on. Drill a hole in the pattern where the axle is to go. The hole must be 90° to the block surface.



Cut out the tubing using the dimensions in the next photo. $3/16$ " tubing is inserted through the hole in the pattern to keep the $7/32$ " tubing in alignment



Dimensions of the rear axle carrier. Center tubing is $7/32$ " all the other is $3/16$ "



Dimensions of the rear upper and lower "H" arms. All tubing is $3/16$ "; again, a soldering block.



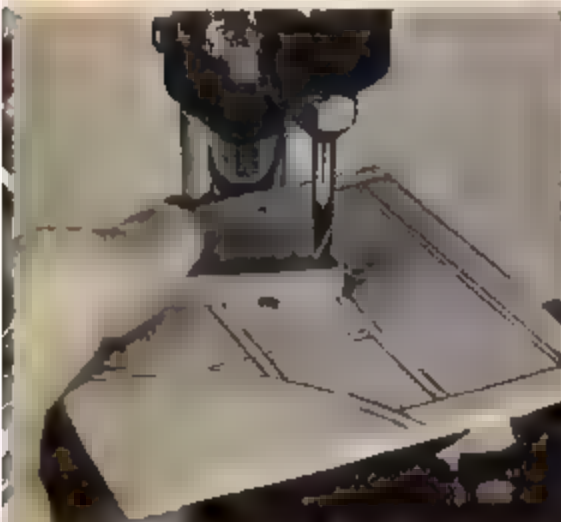
Use a $3/16$ " drill bit to enlarge the hole in the wheels to fit over the axles. Use a hand drill of the type pictured.



Nuts for the $1/8$ " bolts will have to be cut down if they are too large. Tighten a nut against the bolt head, install two more nuts and tighten them together. The sides of the two nuts must line up.



Place bolts in a vise and cut the top nut down to the size of the head. Remove the nut and finish filing it down to size. 40 nuts are needed.



Drill a $5/32$ " hole through a piece of $7/32$ " square brass tubing. These will be used to make the suspension mounts. 16 will be needed in all.



Cut a piece of $3/16$ " tubing exactly $3/16$ " long. Slip it in the end of the square tubing, and insert $5/32$ " tubing to hold the $3/16$ " tubing in place. Solder the $3/16$ " tubing in place and file the $7/32$ " tube to the shape of the $3/16$ " tubing.



The length of the suspension mount depends on how small the nuts you made, are. The mounts should be as short as possible, yet be long enough to let the nuts turn.



Use a length of $5/32$ " tubing to help hold the suspension mounts while filing them to size. Keep the first mount on the tubing to act as a guide to making the others. Eight of these are needed.



The upper suspension mounts are different in that the suspension arms fit inside the tubing. File the tubing down as shown.



The back portion of the frame is made one side at a time. Use these measurements to set up the soldering jig. Use $7/32$ " round tubing.



Draw two parallel lines $3-7/8$ " apart. Position the rear frame pieces as shown. Cut and file to shape a cross-member from $7/32$ " tubing.



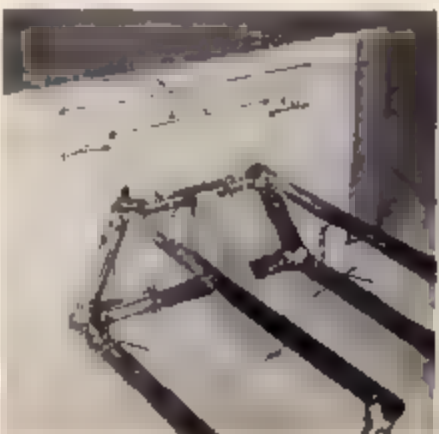
Draw two parallel lines $2-15/16$ " apart. Position the frame pieces again and make a lower frame cross member. Tape upper cross member in place to help hold frame in alignment.



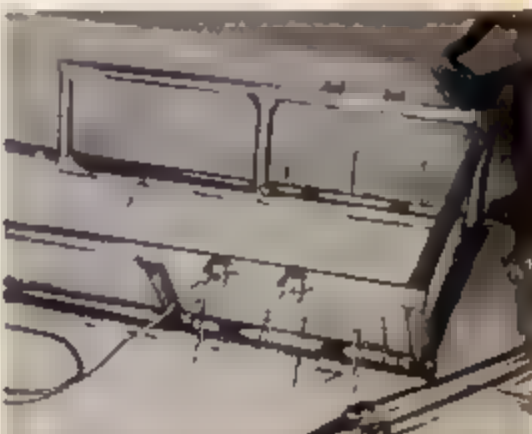
Pin a balsa block to the soldering block, using these dimensions to make sure the frame is aligned for soldering. Use heat sinks to avoid desoldering any joints.



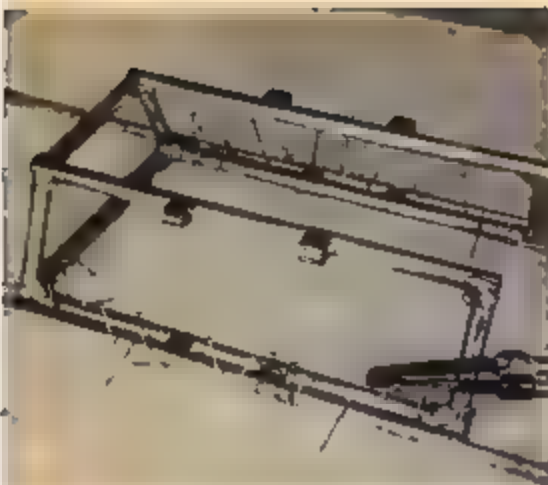
Here are the dimensions for the front portion of the frame. Use $7/32$ " tubing. Make two.



For the front frame the top rails are $3-5/16$ " apart (outside measurements) and the lower frame rails are $2-5/32$ " apart. Make cross members the same way you made the rear ones. Align the frame using the measurements in the photo.



For the rear bottom suspension mounts measure $31/32$ " in from the back of the frame, and for the top mounts, measure in $1-7/8$ " in from the back of the frame. Solder them in place.



For the front suspension mounts, measure in $1\frac{21}{32}$ " from the front of the frame for the bottom mounts and $1\frac{29}{32}$ " in for the top mounts. Solder them in place.



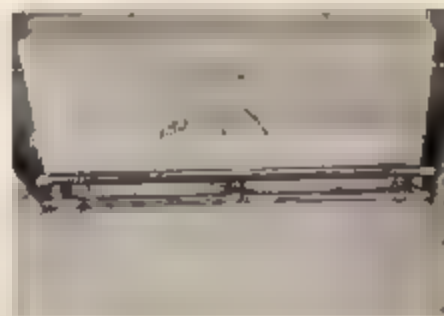
Use these measurements to set up the complete frame soldering block, then attach the two frame sub-assemblies to the block. Total frame length is $18\frac{3}{4}$ ".



Make the front and rear frame cross pieces first; don't solder them in place. Now, carefully cut and file the outside frame rails for a perfect fit. Solder all the pieces together.



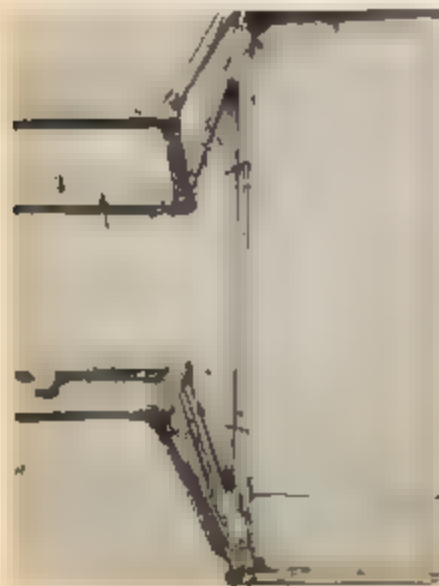
An added brace for the outside frame rails can be made by bending lengths of $\frac{1}{8}$ " tubing and inserting them in the cross and side frame members before soldering the pieces together. $\frac{5}{32}$ " and $\frac{3}{16}$ " tubing in the frame pieces keep the $\frac{1}{8}$ " tubing from moving after soldering.



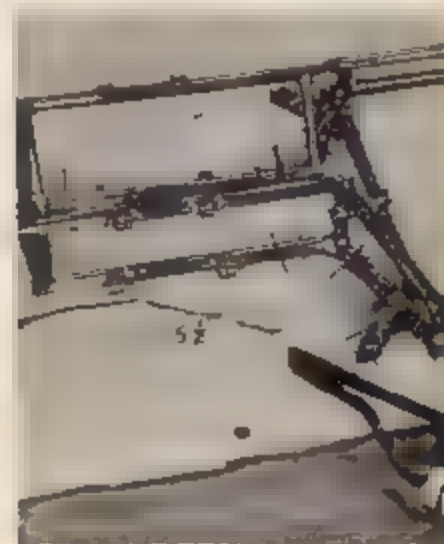
The upper frame rail is $1\frac{11}{16}$ " high. Make a soldering block as shown to keep the upper frame rail in position while soldering.



Now shape the front and rear upper frame cross pieces. Use a jig to solder them in place and use heat sinks.



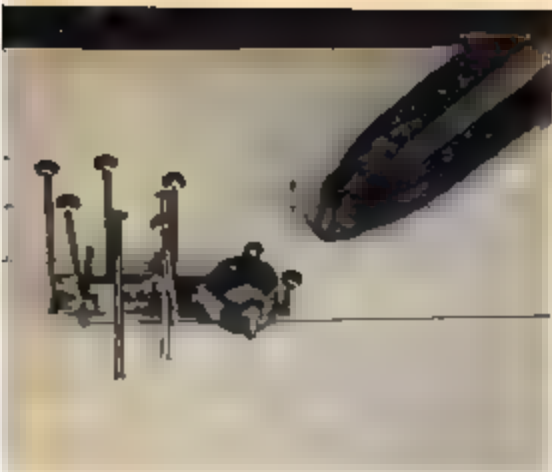
Make a front frame brace as shown and solder it in place.



Make four body mounts as shown. They should not extend beyond the outside frame rails.



Drill a $\frac{1}{16}$ " hole in the end of a $\frac{1}{8}$ " brass tube. With a thin flat file, file a notch as shown in the end. Cut the tube $\frac{1}{2}$ " long make two.



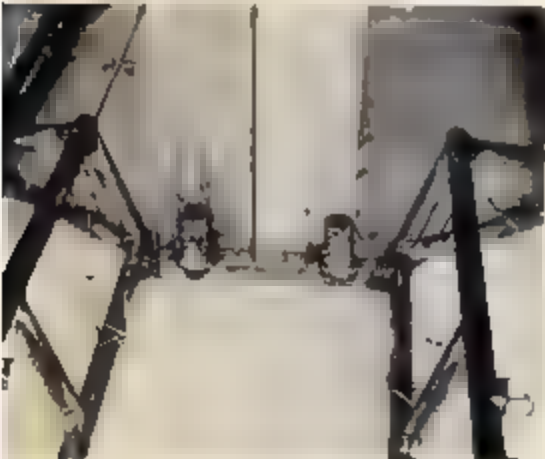
Cut two lengths of $7/32$ " brass tubing $1/8$ " long. Notch the ends of the $1/8$ " tubing to butt against the $7/32$ " tubing and solder the pieces together. Makes two units.



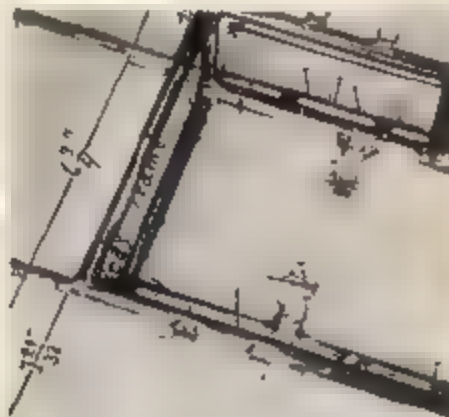
Cut a $5/8$ " length of $3/32$ " brass tubing. Flatten the ends and drill a $1/16$ " hole in each end. This is the tie rod.



Epoxy the tie-rod arms to the front spindles. Before the epoxy sets, adjust the wheels so they are straight. The tie rod arms should be at more than a 90° angle to the spindle. 1" thick balsa block keeps the frame the correct height off the ground.



Solder a length of $7/32$ " square brass tubing $3/8$ " in from the back portion of the frame, as shown. Two pieces of tubing $1/8$ " long are soldered to this, $5/8$ " in from the outside of the frame. This is the front engine mount.



The rear engine mounts are $7/8$ " long, measured from the outside of the frame rails. They are 2" in from the very back of the frame. Don't desolder anything.



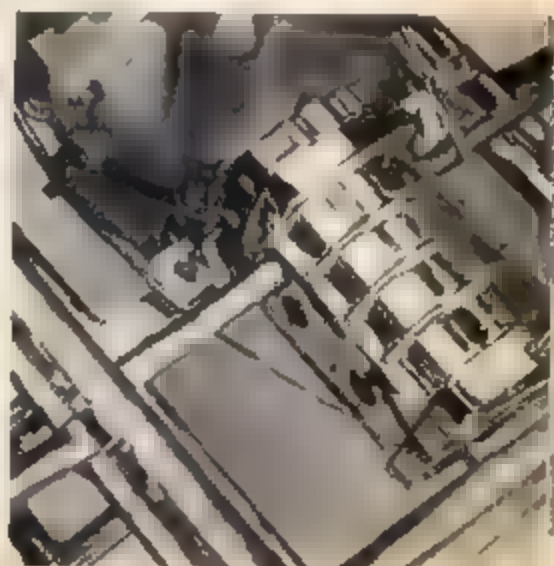
Measure $1/8$ " in from the front of the assembled blower unit and $3/16$ " down from the top of the flat side portion. Drill a $5/32$ " hole through the blower where marked. If possible, use a drill press.



Assemble the engine to the point shown. Insert $5/32$ " tubing through blower, and $3/16$ " tubing through the rear axle carrier. Slip $3/16$ " tubing over $5/32$ ", install wheels on $3/16$ " tubing and set engine in place. With blower and engine lined up, glue blower part #103 to engine. Frame must be 1" off the ground.



Carefully line up the engine on the frame, then make two engine mounts out of .040" thick plastic. Engine mounts must fit flat against the frame engine mounts.



After the glue has dried, drill a $1/16$ " hole through the mounts on the engine and frame for 0-80 bolts.



Now, make the front engine mounts. The right mount will only need a thin piece of plastic to fill the gap between the fuel pump housing mount and the engine mount on the frame.



Make a transaxle brace from a strip of brass, use 0-80 bolts to hold the assembly in place.



For this body style, you must first shorten the frame $3/4$ of an inch.



Strange as it may seem, to lengthen the Monogram body, you must first shorten the head $3/4$ ". This has nothing to do with the previous step.



Use the dimensions shown to cut the roof apart. Split the body as indicated in the photo by the dark line.



Move the back body piece back $3/8$ " as shown. This will give you an idea of how this should look at this point. Tape everything together securely.



With the body in place, gap $3/16$ " apart at the top and bottom, heat sink lengths of 20 gauge wire in place as shown. Heat mold the back of the body to the belly pan.

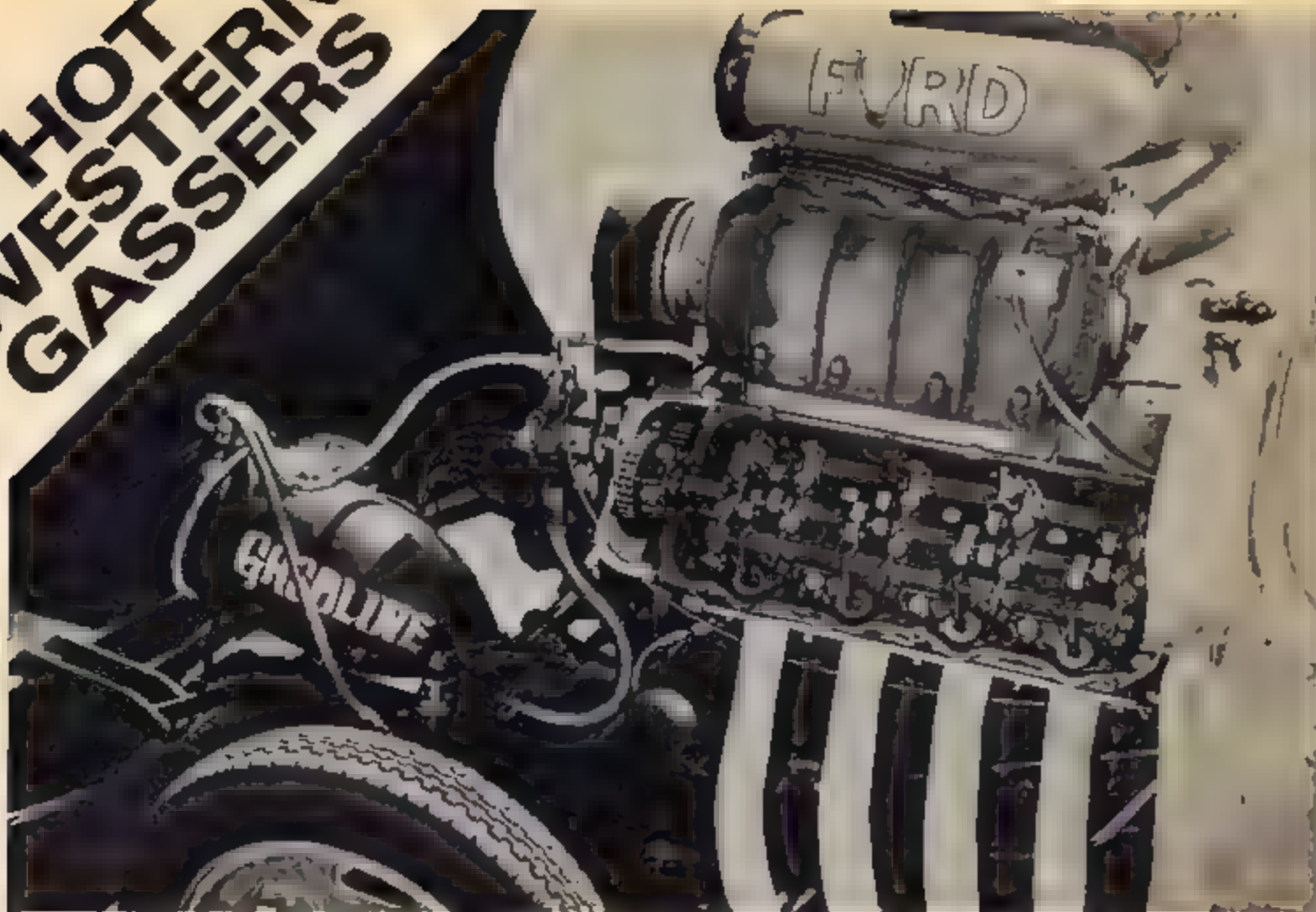


Cut all the runners off the plastic trees so you have a straight plastic rod. Heat mold the ends of the rods in place as shown until the gap is filled.



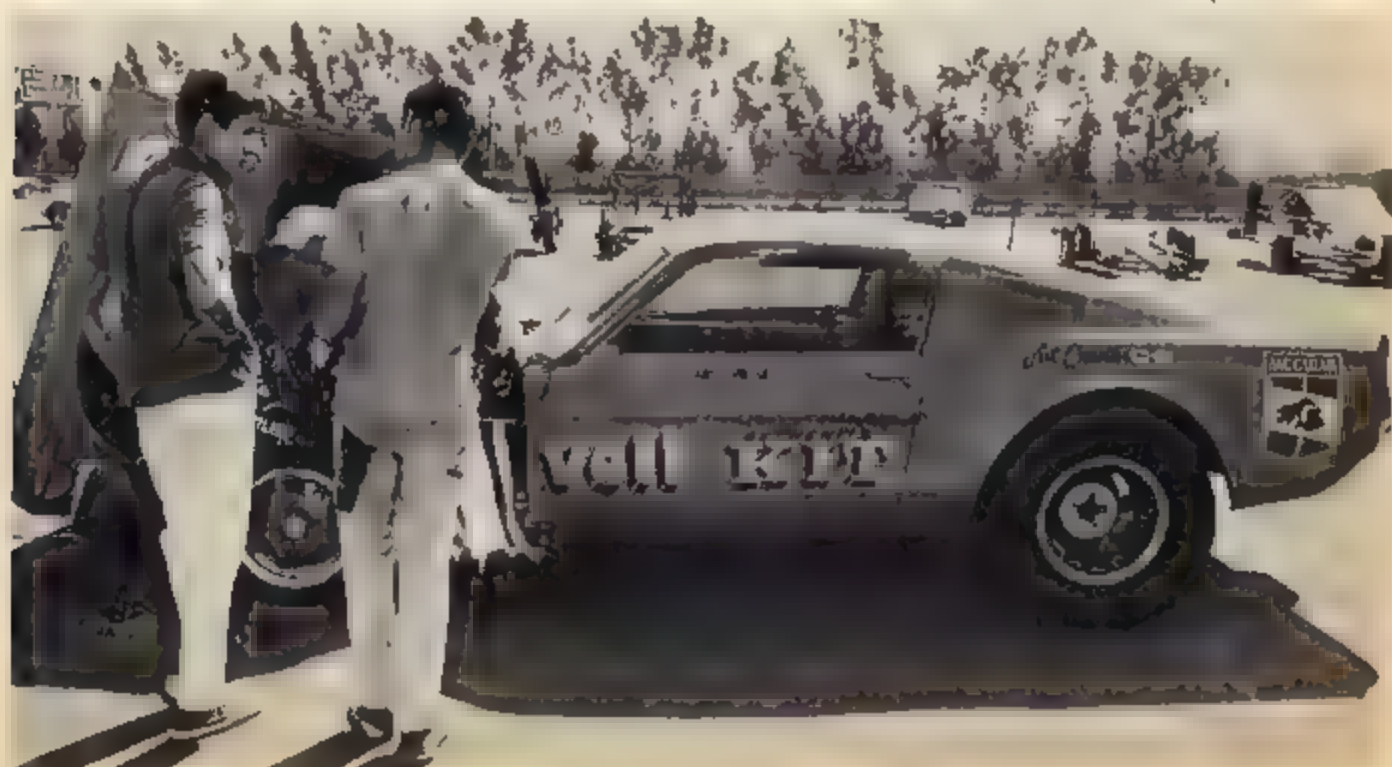
Now, mold extra plastic scraps over the rods until all the spaces have been filled. Try to follow the stock body contour.

HOT WESTERN GASSERS



Powerplant is SOHC 427 cubic-inch Ford. Block was surfaced and O-ringed by Gene Ohly. Ed Pink reworked Forged True pistons.

Cal Automotive fiberglass body was painted by Martinez Bros. in Azusa. Hailbrand magnesium wheels are at rear with Pirelli up front.



Special safety equipment includes a five-point harness and Beta cloth fire suit, both by Jim Deist.



REVELL'S BIG TOY

Authentic Revell race car
is putting it
to the big boys.

Almost every kid likes to build models. So 31-year-old Skip Hess must be just a kid at heart because the parts for his Revell Kit AA/G Mustang include a fiberglass body and S.O.H.C. Ford engine.

Married and the father of two, the transplanted San Diegan first gained fame with the Shores & Hess and Skipper's Critter Angkas. But now the big Ford has made him a charger at every meet.

The 427 block was surfaced and O-ringed by Gene Ohly who also reworked the oil passages. Align boring, also by Ohly, was necessary to fit the Milodon girdle. The Reath Automotive crank has grooved mains and is indexed, chromed and polished. It is also center-counter weighted, reinforced and turned for Chrysler rod size.

Mickey Thompson aluminum Chrysler rods have .075-inch side clearance. Ed Pink reworked the Forged True pistons and installed Teflon buttons. A Holman Moody aluminum pan and Milodon oil pickup feed 40-weight Pennzoil Racing Oil to FRW bearings. Rod and main clearances are both .003-inch. Ramco rings hold in the Custom Supreme.

Bill Woodul, at Holman Moody Stroppe, O-ringed the heads and evened the cc's to 125 per chamber. The sodium-filled Ford stainless valves measure 2-1/4-inch for the intakes and 1-15/16-inch for the exhausts. Perfect Circle Teflon valve seals and Ford shim headgaskets complete the assembly.

Howard makes the revs with a .576-inch x 344 degree camshaft and Howard springs. The headers were done by Homepower Engineering. Ford provided the blower manifold which supports a Don Hampton huffer. The impellers were given .003-inch bottom clearance and triple pinned. A Hilborn 150A pump and low profile injector supply the mix. Cragar gets credit for the blower drive which is usually set up for a 20 per

cent overdrive ratio.

The Cirello magneto sparks AG 603 Autolite plugs via Autolite Silicon wiring. Magnesium Ford valve covers and some special plates and brackets by K.Y. Rogers complete the engine.

Encased in a Chute Metal blanket, the Arcadia Transmission C-6 uses a 3500 rpm converter. Goodyear 12.00 x 16 tires get the ponies from a 4.56:1 Detroit Locker and Ford racing axles.

The Jim Kirby chassis consists of 1-1/2-inch x .125-inch box channel tubing. The roll cage is 1-5/8-inch x .083-inch chrome moly tubing. One five-leaf transverse spring and Gabriel adjustable shocks suspend the tube front axle. In the rear coil springs and another set of Gabriel Adjustables support the high-performance Ford housing. Unequal radius rods locate the front axle while 34-inch box channel lift bars handle the job in the back. Stopping is accomplished by a Deist 16-foot cross-form chute and high-performance Mustang drum brakes.

The Cal Automotive glass body was painted by the Martinez Brothers in Azusa. Jack Burr, a member of Skip's pit crew, did the lettering. Pirelli 1.25 x 15 front tires and a full set of Halibrand magnesium wheels finish the exterior.

Inside a Stewart-Warner oil gauge is surrounded by Tom Hann's aluminum work. Special safety equipment includes a five-point harness and Beta cloth fire suit, both by Jim Deist.

Originally constructed with the help of Burr, Rogers, Bob Davis and Bobby Wilton, the stonier has rewarded both Revell and Mequiers Enterprises, the sponsors, with a thundering \$ 80 at 162.00.

One five-leaf transverse spring and Gabriel adjustable shocks suspend the tube front axle. Unequal radius rods locate the front axle.



Stopping the AA/G Mustang is accomplished by high-performance Mustang drum brakes and a Deist 16-foot cross-form chute.



Coil springs are in rear and Gabriel Adjustables support the high-performance Ford housing.

Photo credit
Jack Swickard &
Jens Money

12 TOP NO-COST TUNING TIPS

Any car will run faster and corner quicker if these basic performance pointers are followed.

By Robert Schleicher

PICKUPS

No car will ever perform properly until it is picking up all of the electrical current that is available at the track pickup strips. The pickup braids must touch BOTH pickup strips at every place on the track. Placing as many strands of the car's pickup braid in contact with the track pickup strips is the first step in assuring contact.

The pickup blade is the "guide" that forces the car to follow the track's curves. It stands to reason that the deeper the pickup blade is in the track slot the less chance there is for the pickup to leave the slot. Few of the ready-to-run 1/32 scale cars have their pickups set to take advantage of the full depth of the track's slot. Adjustment is a simple matter of adding spacer washers between the car's chassis and the top of the pickup, trimming away an equal amount from the top of the chassis in some cases. A full-depth pickup blade can easily double your car's speed through the

Even the best drivers will occasionally spin their cars in a corner. It is natural for the pickup to try to spin completely around in the chassis, making it difficult for a corner marshal to replace the car in the slot and also tangling the lead wires from motor to pickup. Most of the 1/32 scale ready-to-run cars have stops built into the chassis to limit the amount of pivot at the pickup to about 60° to either side. If your car does not, you can epoxy a short scrap of brass to the chassis that will prevent the pickup from swiveling more than 60° from side to side. Check other brands and these photos to see how the amount of pivot is limited.

The lead wires from motor to pickup must not interfere with the amount of free movement of the pickup. Check both wires to be certain they are not snagging on the body or chassis. On many brands a flat piece of metal is crimped to the end of each lead wire to plug the wire into the pickup. Often, just bending these crimped metal tabs back or to the side will eliminate any problem of the tabs and/or the lead wires snagging on the chassis or body.



The four most popular brands of 1/32 scale racing cars this season include (left to right) Revell, Monogram, MRC/Scalextric, and Strombecker. ANY of these will perform to perfection if our tune up tips are followed.



Most brands of ready-to-run cars have braided pickup strips, like this Strombecker car, that are just barely wide enough to contact strips on the track.



The tabs on the end of the motor-to-pickup lead wires will often hit the chassis or body as the pickup swivels. Bend these metal tabs back and check to see that pickup will swivel freely.



Only the following simple hand tools are needed to get and keep your home set cars in top running order: ice pick or dentist's pick, screwdriver, hobby knife, needle nose pliers, wrench to fit any nuts on your car, and a test block or an extra piece of track to check pickup depth.



Use an icepick to gently unwind the braided pickup wires. Work out only about 1/4-inch at a time. Fray and flatten both pickup braids to get as many individual strands of wire in contact with the track as you can.



Note that the pickup blade on this chassis only penetrates about halfway into the slot, making it far too easy for the car to leave the slot in corners.



Pry the pickup out of the chassis by inserting a screwdriver tip as shown. On some cars a tab must be sprung back to allow the pickup to be pulled free.



Trim about as much from the top of the Strombecker chassis as you want to ADD to the pickup blade's depth. Other brands of chassis need not be trimmed.



Add a 1/8-inch axle spacer washer (available from your hobby shop) between the pickup and the chassis to space the pickup closer to the track and increase the penetration of the pickup blade into slot.



With added spacer washer this Strombecker pickup blade now extends nearly to the bottom of the slot, car will corner much faster without deslotting.



The Monogram chassis has small tabs stamped into each side to prevent the pickup from swiveling completely around. Brass scraps can be epoxied inside the chassis of MRC/Scalextric and/or other brands to limit the swivel of their pickups to about 60° to either side.

TIRES & WHEELS

Few performance problems are as annoying as a "hopping" car. The tires just won't grip the surface of the track if they are constantly bouncing in the air. The tires must be held firmly to the wheels and the tires and wheels must be perfectly round in order to eliminate "wheel hop." The ready-to-run car manufacturers assemble your model cars on production lines that build full-size cars. Tires and wheels are mounted on the chassis by jig assembly to be reasonably true and round. There are, unfortunately, many cases where a wheel is pressed too far onto the axle so that it won't spin freely. A quick pry with a screwdriver tip will usually free the binding wheel. You should carry your wheel and tire tuning a bit further than merely checking to see that all wheels spin freely.

The first step is to remove all four tires, leaving the wheels on their axles. Spin each axle and check all four wheels to see that they are free from any wobble. You can correct most wobbles by judicious bending of the offending wheel with your fingers. The tires should be glued onto the wheels so they won't work their way out of alignment later. A thin coat of Goodyear's Pliobond cement (from any well-stocked hardware store) can be brushed over the area of the wheel the tire will contact. The tire should be mounted back on the wheel while the Pliobond is still wet so it will serve as a lubricant to help seat the tire on the proper place over the wheel. With the wet Pliobond you can actually twist the tire around the wheel to seat it properly. Be sure to grip just the wheel and tire, while mounting, to avoid accidentally bending the wheel. Finally, check the tires to be certain they are perfectly free from wobble. As a final check of a stock chassis place the car on a perfectly level piece of track or a test block and see that ALL four tires contact the track surface. If not, bend the chassis until they do.

Most of the home set cars have their wheels and tires well inside the outer edges of the body. On these cars, you can increase cornering speeds by spacing the wheels out to the very edges of the body. Pry off all four wheels, add 1/8" spacer washers between wheels and chassis, and press wheels back on. An equal amount of axle should penetrate each wheel.



To keep tire hop to a minimum remove the tires to check for round wheels. Tires can be glued permanently round by coating each wheel with Pliobond just before prying tire over



Place chassis on a perfectly flat test block to see that all four tires touch the track. Chassis will have to be twisted by hand until all surfaces touch.



On most cars, the wheels can be spaced out nearer to the edges of the body by prying off the wheels and adding 1/8" spacer washers (from your hobby shop) between wheel and chassis. Pull all four wheels completely off the axles so you can be sure axle penetrates each respaced wheel an equal amount.

BODIES

Strictly speaking, the body of a model racing car is a necessary evil. The speeds that home set cars reach are slow enough that aerodynamics, or smooth wind flow over the body, are of little importance. The model car body merely adds top-heavy weight that tends to tip the car in the corners. The lower the body is on the chassis, the less it will tend to roll the car. Similarly, the lighter the body is, the better.

More advanced modelers can replace the driver and interior with lighter weight duplicates made in a Matte Vacu-Form machine. Some bodies are thick enough so that some of the interior thickness can be scraped or ground away with a power tool. For most of us, the best solution to minimizing the roll effect of the body is to lower the body as much as possible and still clear the tires. Usually, the only modification needed to lower the body is to remove a bit of each of the body mounting posts inside the body. Check the car, as is, to see how far the body can be lowered and still clear the tires. This is the amount you can trim from each body mounting post. You may find that the lowered body is then held up by the interior of the body hitting the top of the motor. The only solution is to cut out the interior and driver and replace it with a separate driver figure, cut from the original interior, and glued to a piece of postcard painted flat black.

The most dramatic increase in smooth cornering speeds will result from isolating the body from the vibrations of the motor and gears. All you need do is loosen the body mounting screws about one-half turn each to allow the body to literally rattle around on the chassis. Be certain to check tire clearance, with a "loose" body to see that the body cannot lean far enough to rub against a tire. If the body can rub one or more of the tires, a bit of the offending body plastic can be sliced away and/or a thick 1/8-inch axle spacer washer can be inserted between body mounting posts and the chassis.



Most ready-to-run cars have a bit of excess tire clearance, with the body mounted higher than necessary.



The body mounting posts can be trimmed enough to lower the body until it just clears the tires. Trim only a sliver at a time, test-fitting occasionally over the chassis.



The body on this 1/32 scale Monogram Chaparral was lowered about 1/16-inch. In some cases the interior of the car must be removed or cut away to clear motor.



The most important single speed "secret" is a slightly loose body, loose enough so it will actually rattle on the chassis to isolate motor vibrations. Simply loosen the body mounting screws about one-half turn each. Re-check tire/body clearance.



Increased brush spring tension will assure maximum motor performance with more reliable power and better "braking." To remove the brush springs, pry up the small retaining tab with an icepick.



The end of the brush spring is lifted free from its retaining tab, as shown, and then rotated about the plastic post until the brush end is free so the spring can be lifted off the plastic peg.

MOTOR

Believe it or not, most of the 1/32 scale ready-to-run cars have as much speed and/or power as you can use on a home raceway set track. The path to faster lap times lies in "tuning" the chassis, loosening and lowering the body, finding the right gear ratio, and fitting the best tires. Motor mods should be limited to assuring that the motor performs at least as well as it was designed to.

The most frequent cause of low motor performance is a lack of proper brush contact with the commutator of the motor. Increasing the amount of tension on the motor brush springs will help to keep the brushes in contact with the commutator and, as an added benefit, yield a slight improvement in braking. Keeping the commutator clean of worn brush material usually requires that the motor be disassembled. If an inspection hole is drilled in the motor's endbell, it is easier to see when the commutator begins to turn black and a pipe cleaner dipped in lacquer thinner can be inserted into the same inspection hole to clean away accumulated grime WITHOUT having to disassemble the motor. It is best to remove the motor brushes, when cleaning the commutator, to prevent the lacquer thinner from saturating the motor brushes. Clean the commutator, then dry it with a clean pipe cleaner and reinstall the brushes and springs.



The stock brush spring (right) has its ends sprung to a right angle. The retaining tab end of the spring is straightened out by gripping the coil in needle nose pliers and bending the spring end out. Straighten both springs.



An inspection/cleaning hole is drilled in the endbell at the spot shown. Use a 1/8" bit, held in a hand drill, and be careful to stop drilling the exact moment the drill breaks through so the commutator will not be damaged.



Install the motor in the chassis with the inspection/cleaning hole down. You can now inspect the commutator from time to time to see when it becomes black. When the commutator does need cleaning, the motor will have to be removed from the chassis so the brushes and brush springs can be removed, but the motor itself will not have to be disassembled for cleaning.

You can almost get in and drive it away!

If you want to take a crack at building a truly fantastic model car, one that can fill the place of honor on your mantle and stimulate conversation for years to come, you can do no better than trying your hand with the Pocher 1/8 scale 1907 Fiat 130 HP T-2 car, imported exclusively into the U. S. A. by Sinclair's Auto Miniatures, of Erie, Pennsylvania. This giant kit makes up into one of the most extraordinary model cars we've ever seen.

Imagine a total of 823 precision parts made of brass, leather, high impact plastic, steel, iron, copper, rubber and aluminum! Imagine further that you can put this fantastic model kit together like a real car, using real car assembly methods! "Fantastic" hardly describes the feeling you get when you see this model.

The car is easy to build, requiring only a bit of patience and careful attention to detail. Obviously it's not for youngsters, and it's not a play thing. This is a display piece unlike any other model you've ever seen.

The Pocher 1/8 scale Fiat sells for just \$59.95 which is, as any serious model builder knows, an outstanding bargain. A charge of several thousand dollars is not unusual from an "old world craftsman" in Europe for a commission to build a car with detail and accuracy such as is found in this Fiat.

You can order this kit only through Sinclair's Auto Miniatures, Dept. MCS, 3416 W. Lake Rd., P. O. Box 8086, Erie, Pennsylvania 16505. The price of the kit is \$59.95 plus \$2.50 for postage and packing.

Our special thanks to Mr. David Sinclair, the owner of Sinclair's Auto Miniatures, for his assistance in making this article possible.

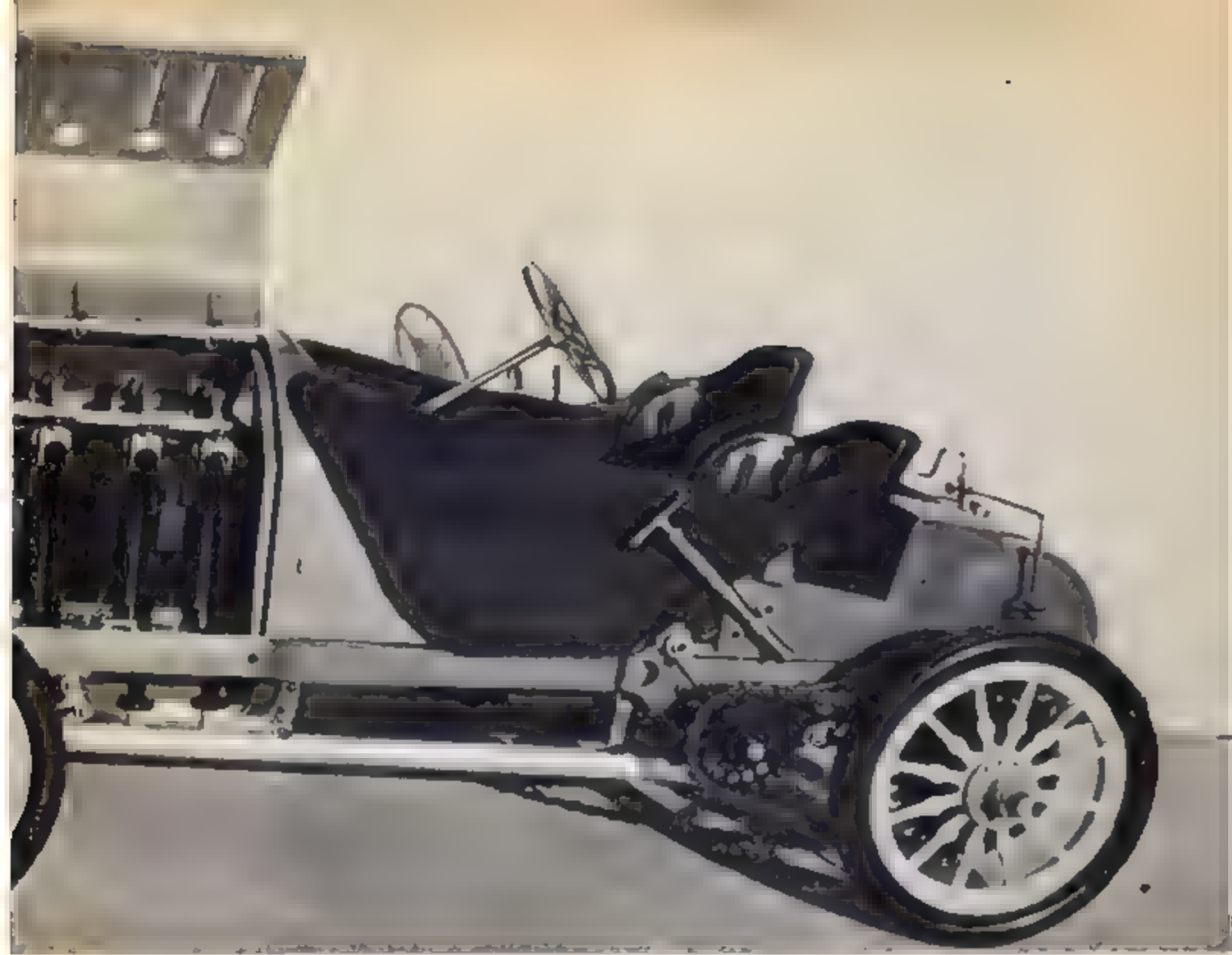


FABULOUS FIAT

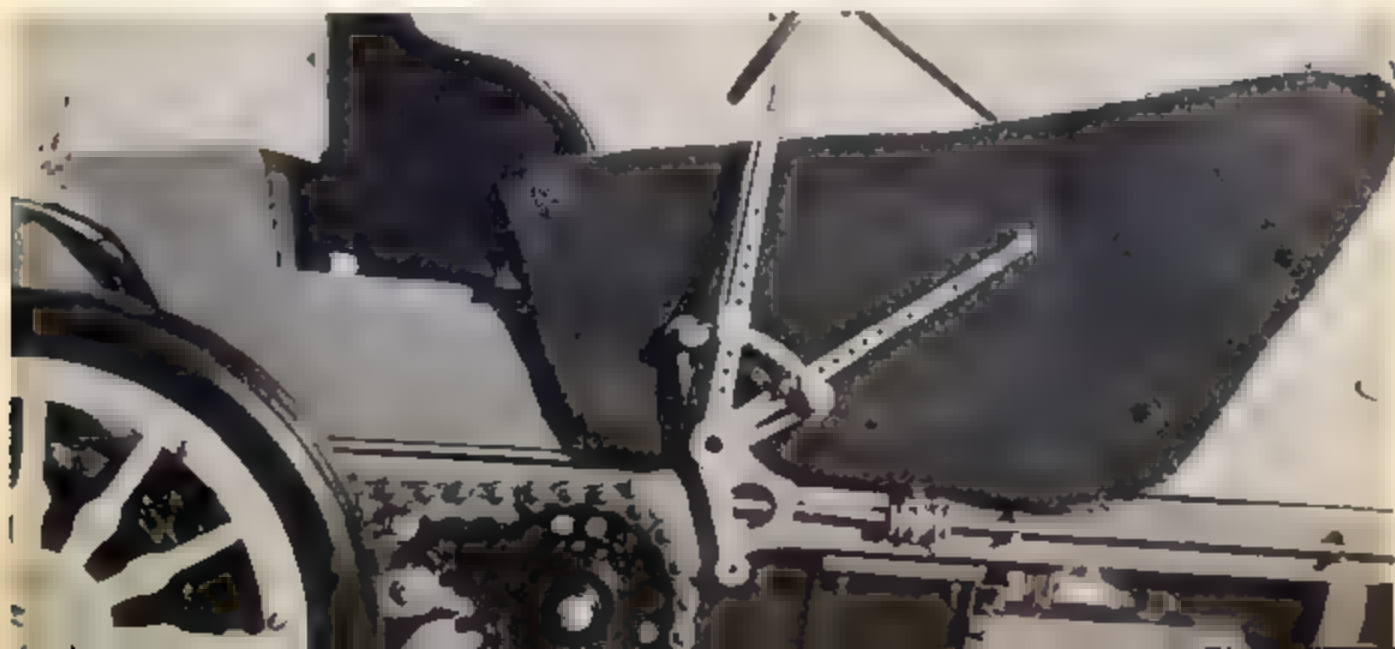


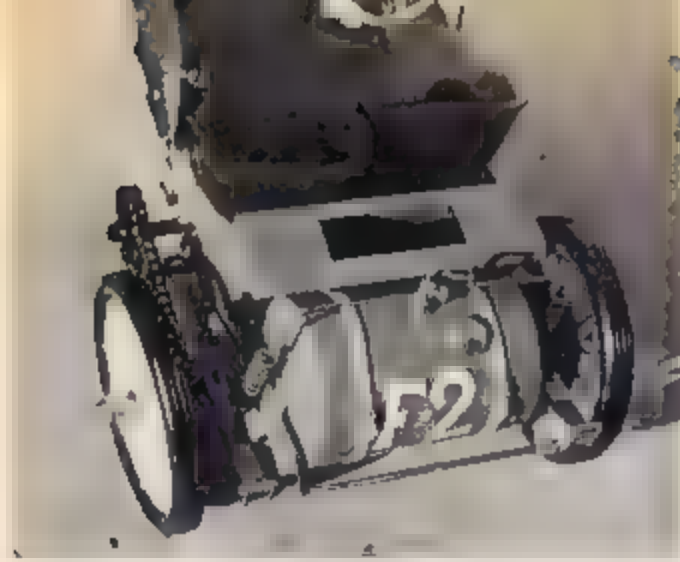
The Fiat, imported exclusively by Sinclair's Auto Miniatures of Erie, Pennsylvania, was taken from a prototype existing at the Car's Museum in Torino, Italy. The model was built exactly to scale from original Fiat drawings, courtesy Historical Center of the Fiat Sps.



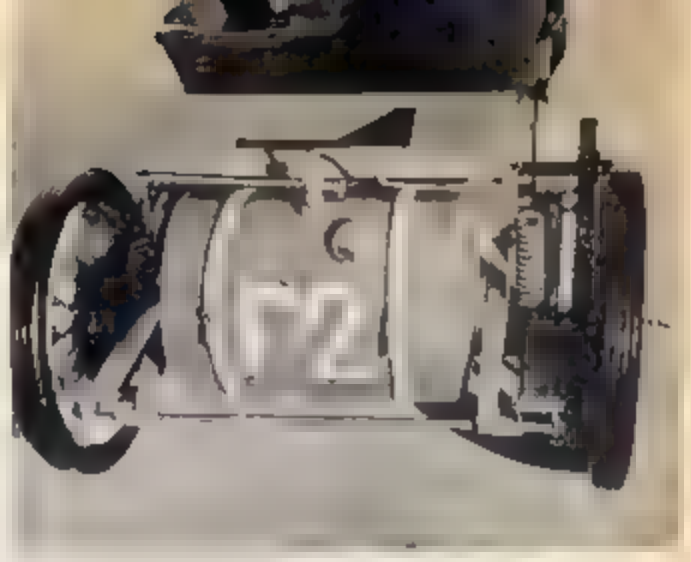


The 1907 Fiat 130 HP Grand Prix car by Pocher of Italy is made up of 144 parts in special high impact plastic, 173 brass parts and 506 pieces in various other materials for a total of 823 parts!

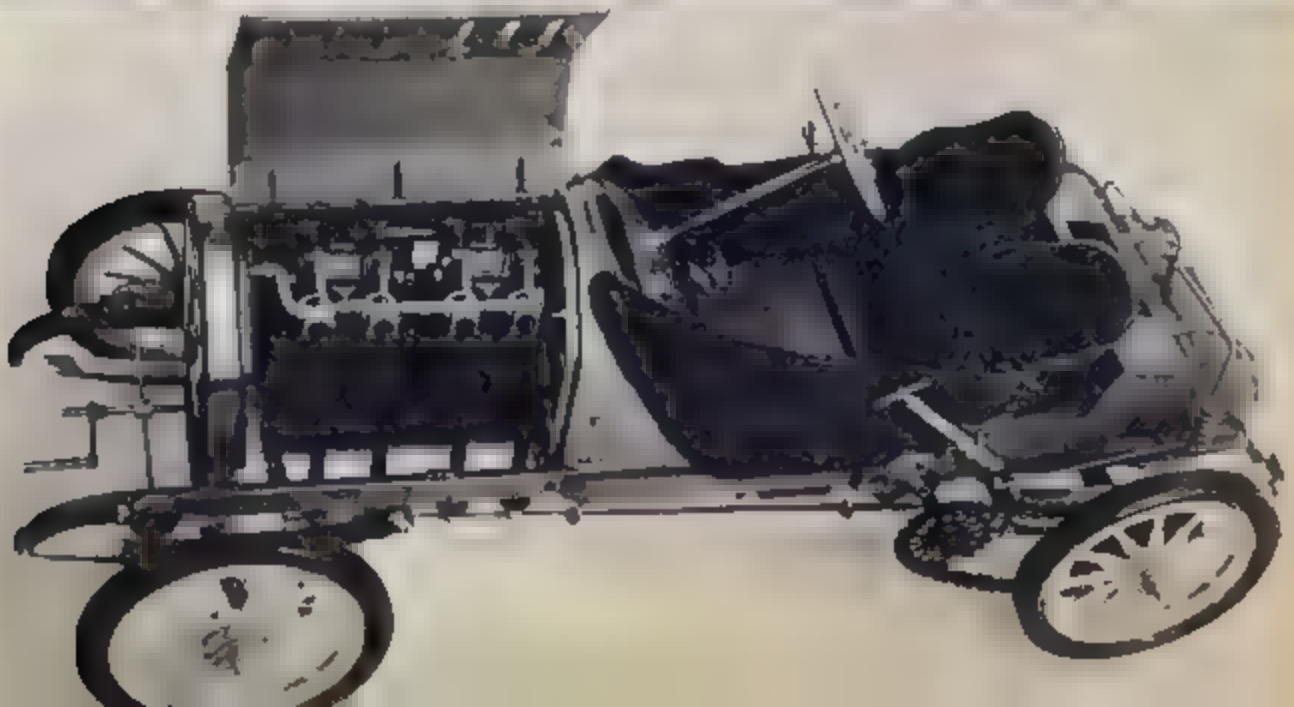
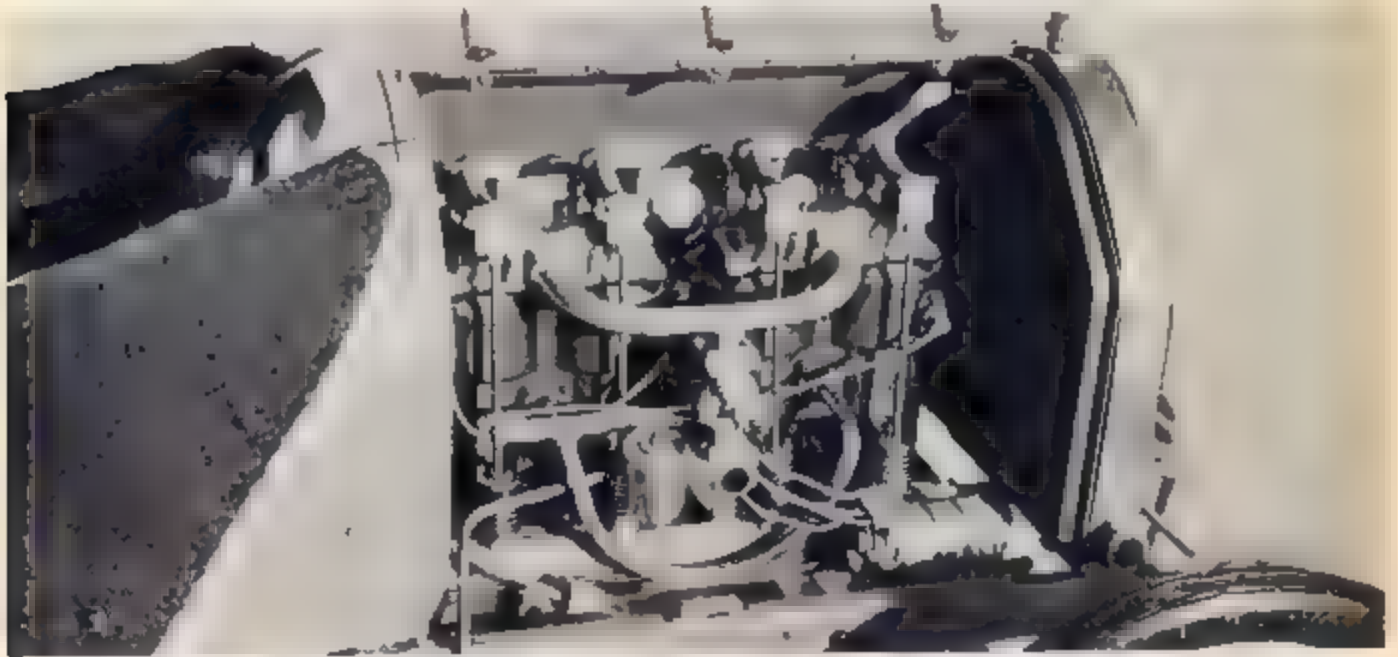




The 130 HP Fiat won the 1907 Grand Prix de France, organized by the A. C. F., with Felice Nazzaro as pilot.



The Fiat is a true conversation piece. Even the most untrained bystander realizes that this is no ordinary model car. It's BIG and so authentic that you find yourself standing by waiting for the engine to fire up! Truly a stunning model, and at \$59.95 a fantastic buy.



FLU BUG!



You won't find the second part of our "The Ultimate HO Track" in this issue, nor the cutaway drawing of the HO car that we promised on the cover. We're sorry—you'll see both of them next month, and we'll go even more pages on each of them to make up for this month—and we blame it entirely on the "Hong Kong" flu epidemic that's

sweeping the country. It swept through our writing staff too, and when most of the crew are flat on their backs in bed, it gets thrilling just to see if the issue is going to get on the news stands on time. Thanks to a super-human effort on the part of the entire staff, even those struck with the flu, we made it. Watch next month for the missing articles.



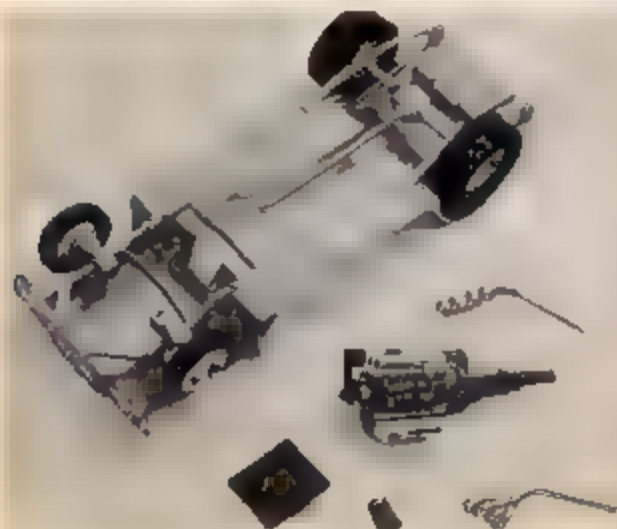
"SHAKERRR" 'STANG

Revell's '69 Mustang kit includes the new "Shaker" intake ram box. Here's how to really make it shake!

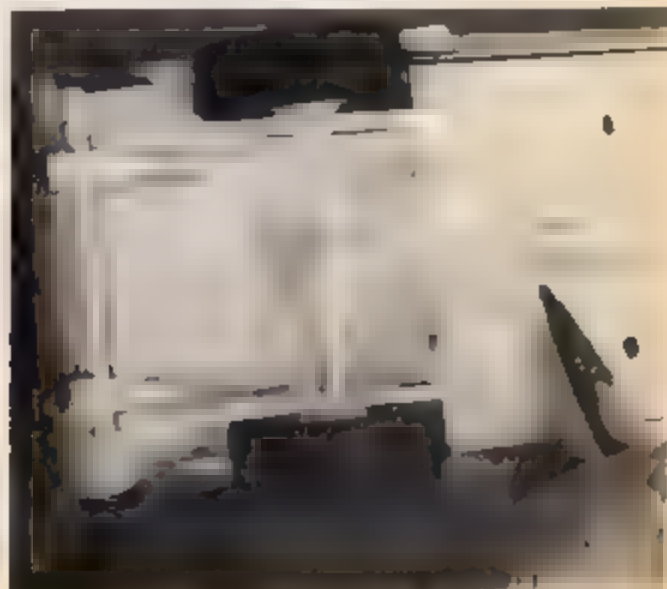
Newcomers to the modeling scene may be surprised to learn that Revell was one of the very first model makers to offer new car models. In recent years Revell has relinquished the very newest car models to their competitors. It's good to see them back into the thick of new model introduction time with an all-new '69 Mustang kit. The assembly and detail techniques the Revell engineers have designed into this new kit provide many interesting

alternatives to the modeler that are not offered in many of the other '69 model models. The model can be assembled as either a convertible (complete with tonneau) or as a hardtop. Three chassis/motor alternatives allow either showroom-stock, street-modified, or all-out drag versions of the car, making a total of six different alternates. We chose the all-out drag/hardtop version for the "Shakerrr."

With care in assembly, following the photos and tips presented here, the famous engine-mounted Mustang "Shaker" air intake chamber can be made to vibrate at the slightest touch. Who's to say, for sure, that the engine isn't thumping away under that plastic hood?



Assemble the chassis and drag-modified version of the Revell Mustang per the kit instructions but do NOT assemble the engine air intake pieces. Ultra soft coil spring is $\frac{1}{4}$ " x $\frac{1}{4}$ " from a hardware store.



Street version of kit would have the full exhaust pipes shown here. For drag version, substitute straight headers.



Side scoops could be mounted on hood rather than body sides for extra engine cooling. We chose the stock GT-Shaker hood and single center scoop. Round air cleaner from kit is NOT used if you want to have a vibrating "Shaker" through the hood.



Side scoops are optional, will be fitted to full size "GT" versions of Mustang.



Use liquid cement for plastic to install both front and rear windows to prevent crazing of plastic. Use only a dab on side.



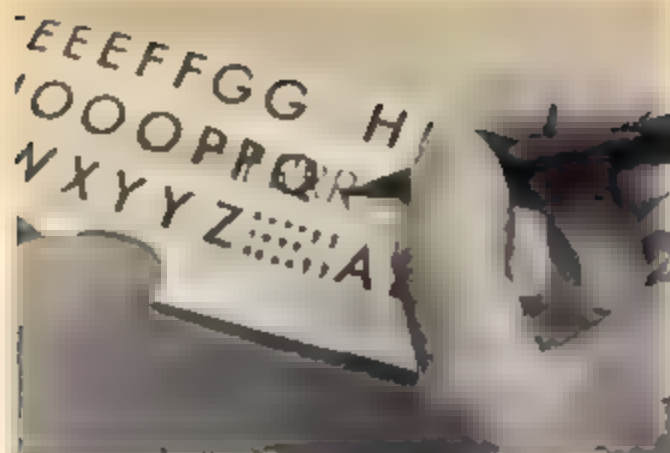
Both windows and chrome frame should be fitted to top before it is installed. Paint basic top BEFORE gluing windows.



Stock dashboard unit is about 1/8" too high in car. File the triangle that attaches dash to interior to allow dash to sit lower in interior.



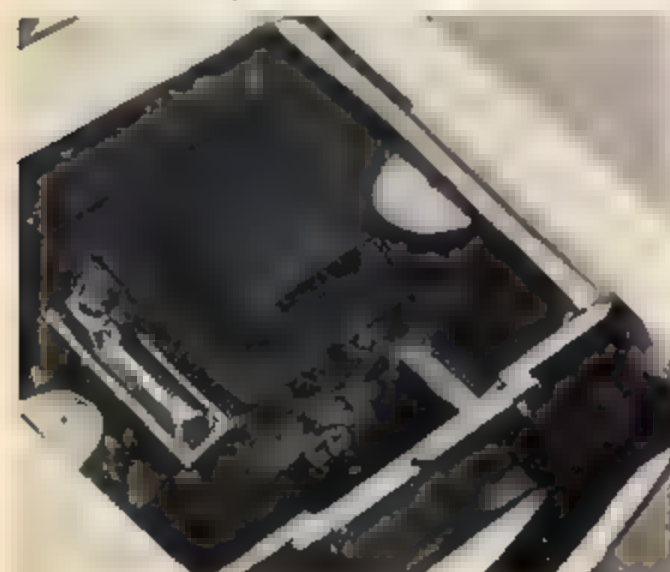
Lower extension of dash that contacts the floor must also be trimmed at least 1/8" to lower the dash to the correct height.



Large artist supply shops and drafting supply shops can furnish large-size dry transfer letters in many sizes and styles. Dry transfers are positioned wherever you desire, then letter rubbed with a dull pencil tip to transfer it from clear backing to car side.



Assemble and detail paint interior and body hardware before final assembly.



Shaker intake is positioned over coil spring. The hole in the hood for the Shaker must be enlarged about 1/32" on each side to allow Shaker room to shake.

50/Model Car Science



Arches over letter "S" were hand-painted with thick, flat black, enamel. Stripes and other markings are from kit decals.



Apply a thick coat of Goodyear Pliobond cement to tops of carburetor and to interior of the Shaker intake scoop and allow to dry for about five minutes. Coil spring is positioned over center of carburetors and sunk into thickened Pliobond to hold it securely.



With hood in place, the Mustang appears to have a stock and standard plastic engine. The slightest tap should start that Shaker hood scoop to vibrate as though the engine were really running.

The official voice of HO racing

HOCCL World

As this month's column is being written, two big events are about to happen. First, Aurora is about to release their long awaited Gran Prix cars in HO scale. We have all known these were coming and we have waited for so long that it seems like a dream. None of us have seen them yet and even one of our Regional Directors that wrote several months ago that his sample was great was somewhat premature with this statement. Seems he thought by the time his column got into print he would have a sample direct from the factory, and he just knew it would be great!

We here at HOCCL Headquarters have a little HO-size Gran Prix car from Aurora, but in die-cast metal and meant for an entirely different market. We could only hope that the new HO GP racing car was as slim and well proportioned, but word leaked out to us promises something a little wider than scale and narrower than their current crop of cars. We can't even tell you what type of motor/chassis arrangement the new car uses though we have been told it will be a remake on the existing pen-cake style. We sort of wonder why Aurora cannot develop something more in an inline fashion as did one British manufacturer of HO-size cars several years ago. We still have two of these little cars on our desk and the motor is about the size of a small pencil. Granted it isn't as fast as Aurora's cars are today, but remember it was designed and made several years ago. Imagine what it could be today with several years of development behind it.

The second big event about to take place is the third and final HOCCL mail-in race of this season. The race will be held on the 28th of December at Mini-Wheels Raceway in Highland Park, New Jersey. This is the same shop that hosted the first HOCCL mail-in event in the east. Mini-wheels facilities offer both a road course and drag-strip and again, thanks to the generosity of the Atlas company, we will once again run off a Land Speed Record Run for all the HOCCL entrants. Records should fall, and it will be interesting to compare them with the original records set over a year ago.

We here at Headquarters have received much criticism recently for

being late with race reports and pictures of the mail-in events. Therefore, we should like to explain that first, all of our mail-in events are run by our Regional Directors who like yourselves are HOCCL enthusiast members. These hard working people deserve your thanks, for without them there would be no racing at all! Very often they throw their entire house open to the drivers, spectators and the confusion that goes with this sort of event. They take the time to prepare cars that should have been better prepared at home before they were mailed and, though it is not required, they often do not enter the event themselves, thus giving the other entrants more of a chance and by so doing sacrificing points of their own. They are not paid for their efforts, they do this because they want to do something for the sport and the organization, your organization. So next time you think you should get off a note to us, think about it for awhile and send a letter of thanks to these people, instead. Their addresses are printed with the race schedule. And send along an entrant of your own to the next event. We have checked this part of it out and it seems the biggest complainers never participate themselves.

Regional Director Kim Shaw, who hosted the last event in Elwood, Indiana, just got pictures to us of the winners of that event. Take a look, one of these might have been your car. Thanks Kim, for a job well done.

While we're thanking members, we'd like to pass on a special nod to Richard Harrison, our Regional Director in Louisiana, for giving us an opportunity to look over one of his own creations. Every car that is sent to a HOCCL Mail-in is first examined here at Headquarters, registered and re-packed to be sent on to the race site. It was during one of the last registrations that we saw Dick's beautifully prepared Mangusta. You'll notice this car went on to win the modified GT class in Elwood. Preparation pays off. This one could have walked off with

Concours anywhere as well. We hope all our new members signing up for 1969 like the new membership cards. We never liked the red and yellow combination of the original. Now with the blue and white it more closely relates to the parent organization, NAMRA, a governing body for 1/32 and 1/24 scale cars.

Now, is a good time to check that membership of yours. If you are still holding a yellow card, it's time to renew.

We hate to have to repeat this so many times since we're sure there are many of you who have read it over and over again, but it seems we still get letters from members that don't know membership expires the end of December regardless of when you join. Sorry, this cannot be changed for many reasons. You will notice when you get your new card that we have dropped the number system which always seemed to be a terrible headache for so many new members.

If for any reason your membership packet is late in arriving, more than a month, or if you are a HOCCL member and have written for information and a response is late in coming, please be patient. We try to answer all mail, even from non-members. We can't always do this. The amount of mail that comes in daily would keep a paid staff busy around the clock, and as you know, we here at Headquarters are non-paid enthusiasts, just like yourself.

In regard to the special membership subscription offer to this magazine, we send all applications on to the publisher, it then takes at least a month to process your name. You will probably not receive your first copy for that period of time so again, be patient. If you must confirm a subscription then please write to Model Car Science's subscription department.

Next month a full picture story and report on who won what in our National Championship, complete with winners names, times and awards. Why not start a charter club? It only takes four or five members in your area.

WINNERS FROM THE ELWOOD INDIANA MAIL-IN EVENT.

Dennis Elliott's NASCAR Charger / Modified,
Paul Kocher's Cam-Am Ferrari / Modified, and
Richard Harrison's GT Mangusta / Modified.

Dennis Elliott's GP Turbine and
Carl Dreher's Trans-Am Camaro / Modified.

Bruce Rosenberg's NASCAR Buick / Stock,
Bruce Huxton's Trans-Am Camaro / Stock,
Carl Dreher's Cam-Am Chaparral / Stock,
Carl Dreher's GT Ford I car / Stock

NAMRA World

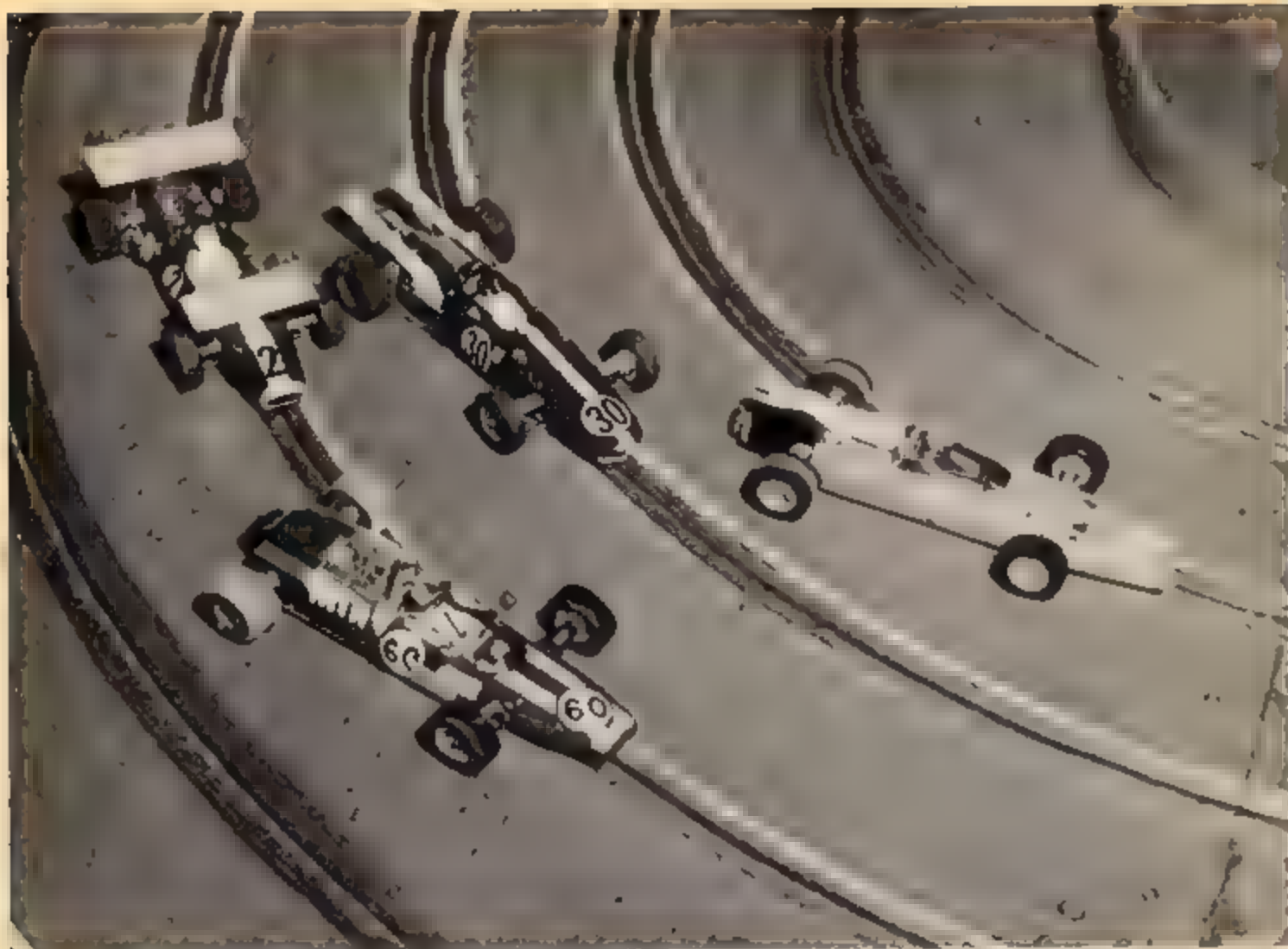


The first race of the new season was a 1/24 event for Sport and GT cars combined. We still don't know what really happened between the last race of the summer program, and that one, but something obviously did, and it caused the lowering of the boom on all members and their cars.

NAMRA's Directors, being active members themselves, have always been aware of the fact that some types of scale racing equipment is hard to find, and in some cases, the situation seems to be getting worse because the manufacturers cater more and more to the semi-scale market, rather than the scale. In particular we have noticed the strain with the proper diameter wheels, especially in 1/24 scale. Because of this, NAMRA Tech Inspectors have tended to be more lenient. However this seemed to be taken as a signal to take advantage of situations that simply are not allowed in NAMRA. And so, when the cars in the impound area at this meet were viewed it was decided to tighten up, to the letter A special notice went out to NAMRA members with the invitation to the next race warning them that no car would be allowed if it didn't meet the rules exactly, and furthermore that the Tech Inspectors were prepared to turn back the entire field if necessary. The message obviously got through. The next event, a 1/24 Gran Prix race turned out some of the finest cars a NAMRA meet ever turned loose, and they all were on the button spec-wise. This is not to say that much wailing was not heard at Tech but the rules were enforced, and the cars showed it. The biggest bone of contention was tire and wheel size. NAMRA is well aware that its 1" minimum tire rule in 1/24 is not a crowd pleaser especially when "those other guys" can use smaller stuff. NAMRA's Research Committee therefore went to work and contacted Goodyear's competition tire department in Akron and obtained the following dimensions which were then sent to members with the next race invitation. Goodyear tires, Can-Am series, mounted on 16" rims (front tires), o.d. / 24.2 inches, o.w. / 11.3 inches, tread width / 9.1 inches. Rear tires: o.d. / 26.6 inches, o.w. / 17.7 inches, tread width / 14.3 inches, proving nothing yet mounted on the big bore Group VII cars use (yet) anything under 1" in scale diameter. The people at Akron also went on to say that some experimental tires up to 16 (plus) inches on the road had been factory tested but never made.

As for the event where NAMRA





shut the gate on "strange happenings," this one, again, turned out to be one of those "almost" things for NAMRA member Charlie Cressi.

Race site for this first 1/24 GP event of the new season was Glen Cove, New York's only commercial raceway. The track, a short course affair and a welcomed change in that there were no county fair type banks, was a hand-built driver's course with a feature we haven't seen since the old Clifflurst days, a sweeper that brought all the lanes together for one line through.

Qualifications out of the way, the Consie brought up four New Jersey drivers, Tom McCabe, Bill Stolting, Charles Bottjer and Gary Kosits. When the dust finally cleared, Bottjer had made it through with some very steady running in the midst of some wild maneuvering, courtesy of three other drivers several years his junior. Stolting powered right in behind him, with Kosits bringing up third and McCabe fourth, separated only by a wheel that someone somehow had thrown. We never did find out who it belonged to.

The Semi brought ever jovial Dom Peluso, the undercover team of Ed Loo and Pete McCarthy and Ed Benerdella to the driver's stage.

Benerdella who had been considered the favorite, one notch over Loo, was able to do no better than second, with Pete McCarthy (who usually gives away many points because of his radical drive trains) third, one above "soul mate" Loo. The win for this one, and a much deserved one, went to young Mr. Peluso, who is fast becoming a threat. The Main event brought up a real mixed bag of "old men," Frank Bianchi, who went on to prove just how much abuse one of his cars can take and still run, Charlie Cressi, who had been considered the favorite, Ned Wagner, winner of last year's NAMRA 500 Invitational, and Charles Hansen who is always a quiet threat lurking right behind you if you bobble it.

At the start, Wagner set the pace with Cressi close behind, followed by Hansen, Bianchi, who roared off the line after them, was making sounds like his car just wasn't getting enough juice but the fault really seemed to be in his eagerness to catch the two leaders, Wagner and Cressi.

By the end of the first segment Wagner was firmly in the lead with one full lap and Cressi and Hansen tied for second. The second segment saw Hansen pit with some serious problems

in the gear department allowing Bianchi moving up in position. At this point Bianchi was doing a very good imitation of a Kamikaze pilot sending the car onto the floor on almost every turn. Wagner, still driving in his cool manner, held off Cressi who was motoring fast and without fuss.

The start of the next segment saw Hansen back in and making up ground but too much had been lost, and as the third segment ended he held fourth spot behind Bianchi, with Cressi and Wagner still second and first. Finally the last segment was on with Cressi's only hope of a win being for Wagner to blow his motor. Bianchi increased his pace and apparent desire to destroy the car while Hansen stroked, it not wanting to lose any finishing points. Wagner did not blow the motor, nor his cool. NAMRA's "old man with the hat," Charlie Cressi, roared over the finish line only a few feet behind the winner Ned Wagner. Frank Bianchi brought his limping car over for third, still trying to push it over harder, and Chuck Hansen settled for fourth.

Coming up next month the first 1/32 GP race of 1969, later the second NAMRA 500 and the rest of the MODFL CAR SCIENCE sponsored season.

THE PADDY WAGON

Monogram's newest
Daniel Creation
is a "natural" place
to try out a
genuine padded interior.

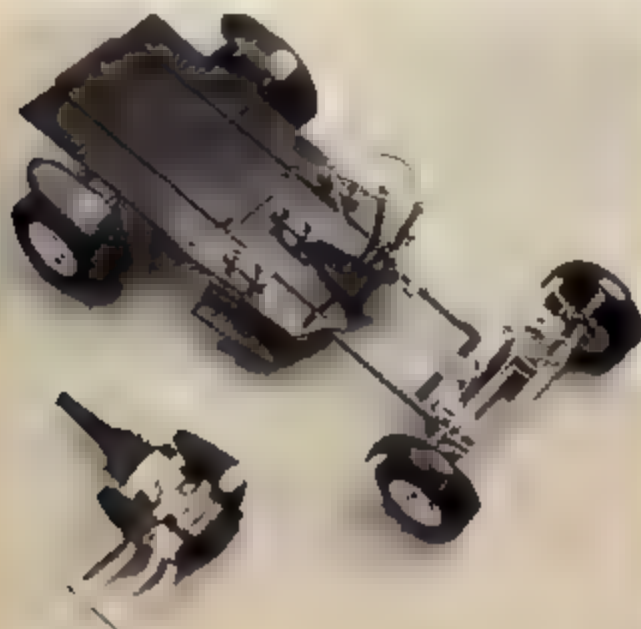


The latest in the Monogram 'rod series of designs created by stylist Tom Daniel is on your dealer's shelf now. The "Paddy Wagon" follows the theme of starting with an 1890-era wagon body style—in this case that of the venerable police Paddy wagon—and adapting the newest and wildest in rod ideas to it for show or street use. Daniel's design, captured faithfully in plastic by Monogram, utilizes the 1890 features such as ornamental iron braces, "Police" illuminated globes, bulb horn, wood rear seats, and true horse-drawn wagon body styling. The mod rod features include wide-oval tires, a

flow intake ram tubes, cycle fenders, and quick change rear end.

A superdetailed model, like the 1/24 scale Monogram Paddy Wagon with full chassis, engine, and interior detail, can benefit from even more attention from the builder. Since Daniel's design incorporates a padded interior, extra contest points and appreciation from other critical viewers will be garnered if the padding is REAL. A number of craft foils and cast plastic panels from the stock kit or adapted from other plastic model kits could be used. Most previous methods of simulating padded interiors in models are just that, simulated. The padding technique shown here is

genuine foam rubber backed with genuine tuck and roll stitching. Best of all, materials are available in any city or town and relatively little time or skill is required to do the job. Basically, the padding technique uses a foam rubber and cloth shoe pad with pre-punched ventilation holes. The foam/cloth pad is cut to fit the interior panels and/or seats, glued to a cardboard or styrene backing, and the holes in the pad connected by weaving thread through them in the time honored tuck-and-roll upholstery style. The panels or seats can then be installed stock or colored with spray-on upholstery coloring. The padding not only looks real, it FEELS real!



The chassis and engine from the new 1/24 scale Monogram "Paddy Wagon" are assembled as per kit instructions.



Materials needed for a real padded interior include .010" styrene, foam foot pads from a drug store, needle and thread, and Plibond cement.



Trace each of the interior panels and/or seats that you wish to pad on the .010" styrene (cardboard could be substituted).



Carefully trim the traced pattern with a sharp hobby knife and double check fit in body or on seats.



Holes, like the oval windows in the "Paddy Wagon" can be shaped in the styrene with a jeweler's file.



Trace the same body pattern or seat pattern on the foam rubber foot pad. Be sure to get the "ventilated" pads.



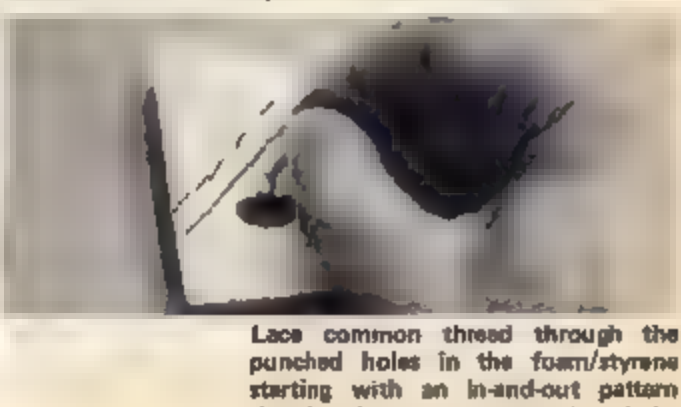
Stock simulated padded interior walls will be replaced with genuine padded parts using styrene and foam pieces.



Coat the face of the styrene panel with Goodyear Pliobond cement and press the foam panel over it with cloth side up.



Punch through each of the holes in the foam pads to penetrate the styrene backing you just glued in place.



Lace common thread through the punched holes in the foam/styrene starting with an in-and-out pattern showing between every other hole, then taping back to fill in the blank spaces. Keep the lines of thread parallel as shown here.



After all lines of thread are laced in one-direction through the foam and styrene, the lines in the cross direction can merely be laced beneath the first lines of stitching on the surface.



All lacing and surface cross lines of thread are in place here. Irregular squares can be aligned by moving the surface threads by hand. Panel is shown with black thread for clarity. Next step would be to spray paint the panel with hardware store upholstery coloring.



Monogram's body panels are assembled less the simulated side wall padding panels and less roof, for now.



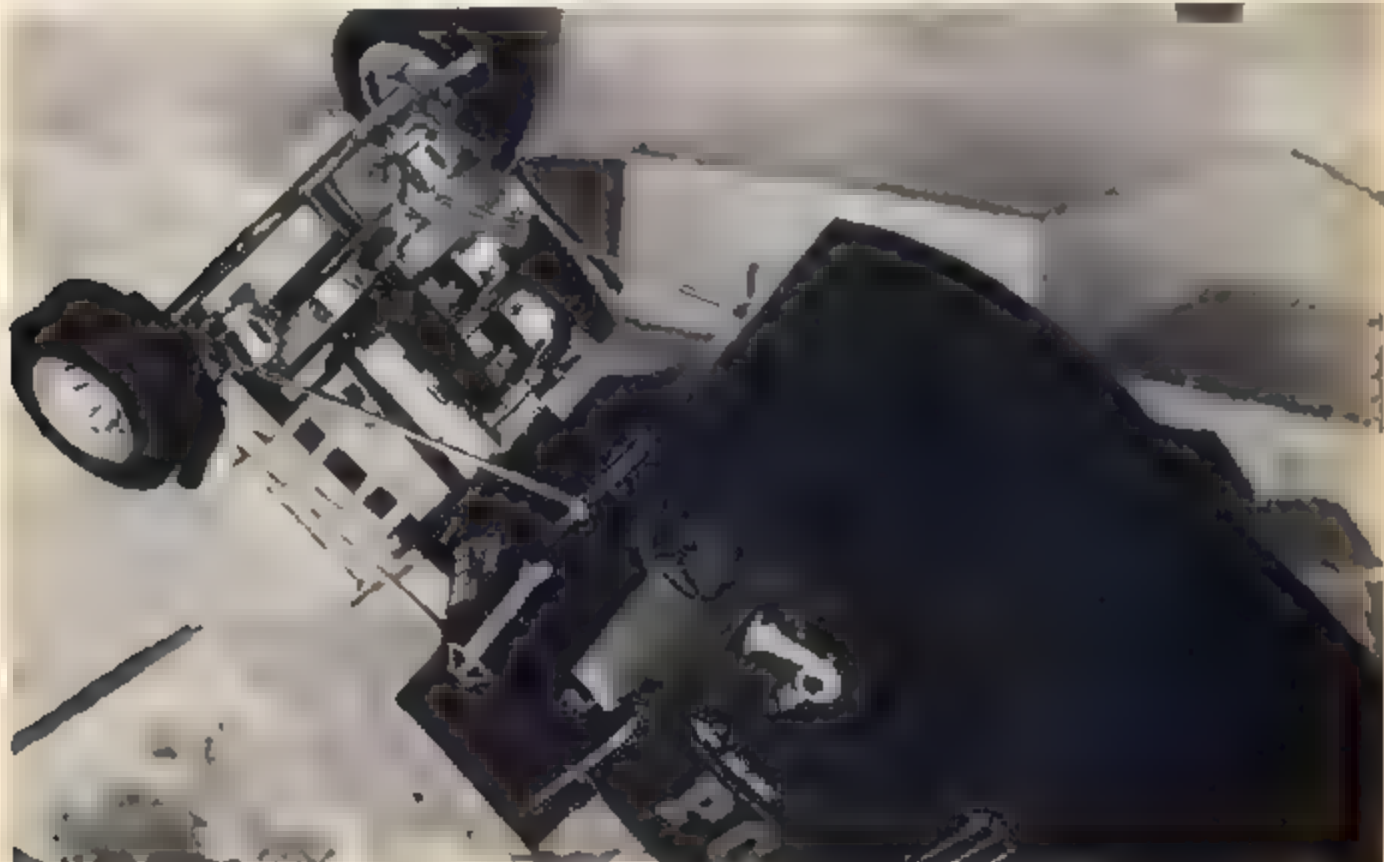
Genuine padded panel is glued to the interior side wall with Pliobond cement. Only one wall was actually padded, but all three interior walls, front seat and front floor could receive padding.



A strip of aluminum striping tape is applied to the exposed rear edge of the padded wall to add a finished touch, then the roof is glued in place.



Monogram "Paddy Wagon" mill is a Ford Cobra-type with wild cross-over intake ram tubes and finned mufflers. Radiator features tongue-in-cheek "1912 Fuzz" as a model/make identification with wrought iron-style front bumper.



Completed padded-interior "Paddy Wagon" is a wild but practical street and show rod display piece for the shelf.

MC&S CLUB LISTING

Fill out this information sheet and mail it to us as soon as possible. We'll list your club in our MC&S Club Listing, which appears in each issue of MC&S. If you're looking for more fun and competition, let other clubs know where you're at. Make it a point to contact the clubs closest to you, and get that competition started. **DO IT NOW!**

Please print

Club name _____

Address _____

City _____ State _____ Zip _____

Telephone area code _____ number _____

Is this a new club? Yes No

If "No" how long has your club been in existence? _____ Years _____ Months

How many members? _____

Do you have a minimum age for members? _____

Looking for new members? Yes No

Looking for competition from other clubs? Yes No

Average age of your members _____ years old.

How many tracks in your club? _____

Custom made tracks? (routed) Yes No

Tracks made from commercial track? (Revell, Monogram, etc.) Yes No

Is your club affiliated with NAMRA? (1/24 & 1/32) Yes No

Is your club affiliated with HOCCI? (HO scale) Yes No

If "yes" do you follow the NAMRA or HOCCI rules closely? Yes No

Which scales do you race? 1/24 1/32 HO

Do you race Ready-to-runs Kit cars Scratchbuilt

How often does your club race? _____

Any special night(s) of the week? _____

Do any of your members subscribe to MC&S? Yes No

Buy it on the newsstands? Yes No

Thank you! Your club will be listed approximately 60 days from today, or less.

HEY GUYS! We have to "fire and fall back" momentarily on our club listing! The mail man is claiming serious injury to his back from the heavy load of mail from you guys, in response to our request for club names and addresses. We have several thousand clubs all ready, which of course we cannot run in one issue. We'll have to run through the listing in consecutive issues beginning with the April issue then start over. Bear with us, it's a beautiful listing and it's bound to help you locate a club in your area.

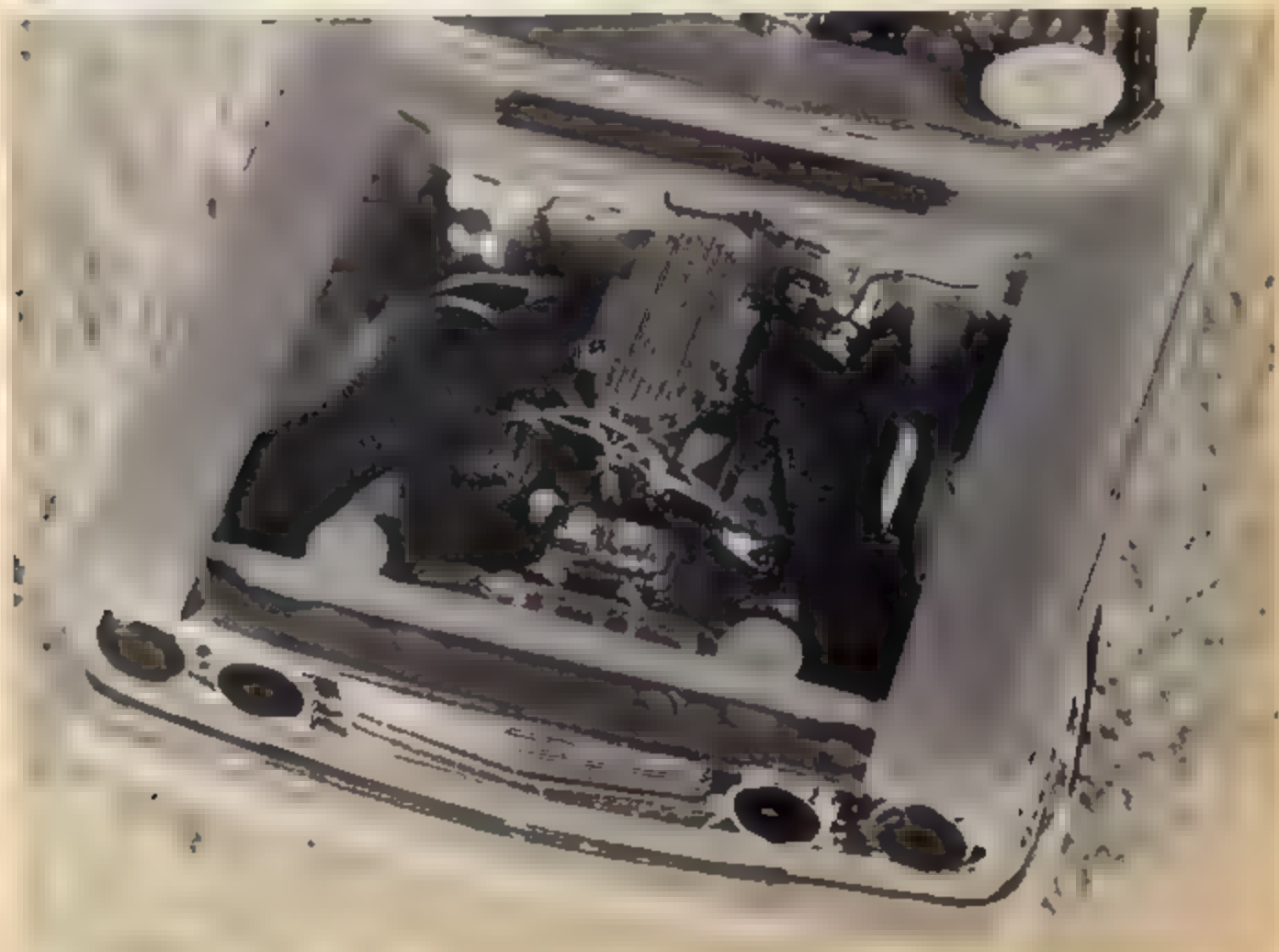
Model of the Month

HOW TO ENTER OUR CONTEST

You can enter any kind of a model you like (train, plane, boat, car, etc.) so let your imagination run wild! Just send one or two sharp black and white (no color please, we can't use it) photographs of the model, and a brief description of what you have done to it. Remember, other readers are interested in what you have done to your model so be specific when mentioning the parts that you used. Send to, Editor, MCS, 171 Barrington Place, West Los Angeles, California 90049. Sorry, we can't return photos.



Henry Berger, of 6702-34th Avenue, Kenosha, Wisconsin 53140 is an old, familiar name to readers of MCS, and this month he pulled off the grand prize of a \$25 Savings Bond again for this beautiful "Thunderbolt" 1964 Fairlane. The car started life as an AMT '64 Fairlane. Henry used the "427" wedge engine, but made a high-rise FX engine from it by using Revell's "427" engine parts kit, using the intake manifold, carbs and air ram box. Much body work was done too and the interior fully detailed. It's finished in AMT blue lacquer. Brings back memories of the early "funnies" the good ol'days! Sumpin' else, Henry!





Groovy! That's the word for Dean Barrell's '37 Fiat! Dean, who hales from Vacaville, California, and is eight years old, made this model using a "427" Chev engine, and parts from IMC and AMT kits. Those are Race-master slicks on the rear with Pirellis up front. *Very nice, Dean.*



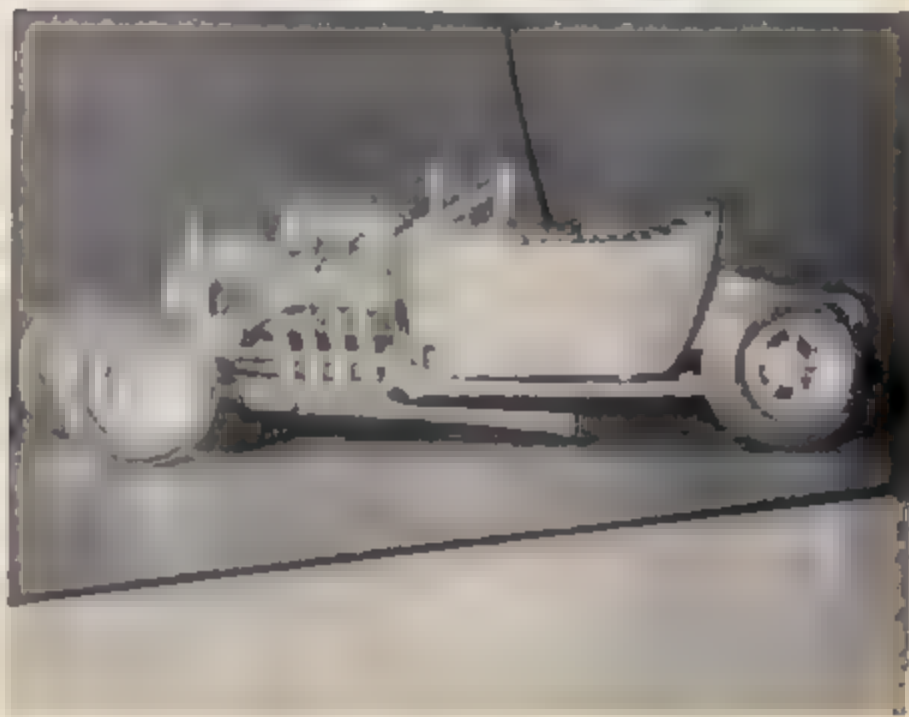
"Sanitary" and "beautiful" describes Tom Piotrowski's '68 GTO, which is fully wired, equipped with stick shift and fire extinguisher, and fitted with a blown Cadillac. Tom, from Palatine, Illinois, proved they have excellent modelers in the Midwest, with seven coats of beautiful competition orange on the body. The interior is crammed with "tiger fur" that's ready to spring out. *Let's see more of your work, Tom.*



Tom King sends this picture of his Revell '51 Thames Panel Truck from North Olmsted, Ohio. The car features a wired Chev engine with real aluminum velocity stacks. The chassis has brake lines and painted mag wheels. The interior consists of real black naugahyde and green "funny fur" for that extra touch of class. The body is painted with seven coats of urea paint. *Splendid machine, Tom.*



And yet another Revell '51 Thames Panel Truck! This one, from Kevin McElhiney, Lakewood, California, is built like the customs seen at the beaches in Southern California. The leaf springs are from Revell's '57 Chevy Nomad, combined with a '32 Ford rear axle. Front nerfs are from AMT, as are the lights, antenna, radiator, surfboard rack, steering wheel, mud flaps and license plate. All doors and hood open and the wheels turn. *Super, Kevin!*



Here's a '23 Bucket "T" from Rick Goefman, of La Crosse, Wisconsin, stuffed with a Chev V-8 with six Weber carbs. Built from an AMT kit, it's finished in gold with a black interior. *Sanitary job, Rick.*



The "Dodge Rebellion" kit supplied Bruce Doane, of Newtown Square, Pa., with his inspiration to build this fine model. The chassis, wheels, tires, roll cage are from the Revell "Miss Deal" kit. The engine is wired and has plugs for the "stacks" to keep out the dirt. The engine is from the Jo-Han "Haulin' Hearse" kit. *Inventive, Bruce.*



A modified James Bond car? That's right, by Bruce Nance, of Linden, New Jersey. The car started life as an Aston Martin DB-5, and ended up with parts from a '67 Dodge Charger, a '68 Ford Mustang and a Ford LTD. The engine is a "427" V-8, which replaces the rather sedate six-cylinder. *Bond wouldn't recognize his car, Bruce.*



Roger Clark, of Minneapolis, Minnesota, wields a keen customizing knife, as you can see from this near '68 GTO from MPC. Roger took the blower and hood scoop from his junk box. The stock drive belt is bolted on with 00-80 brass bolts. The engine is completely wired with nylon fishing leader, left unpainted. *Ah, a pleasure for us to gaze our baby blues on, Roger.*



The "Violent VeeWen" would describe John Goode's model. John lives in Live Oak, California, and it's that West Coast influence that does it, no doubt! The car is basically an IMC VW, with many parts from AMT's "Wynn's Jammer" kit, fitted with a "427" Chev. All body lines, except around the doors, were filled in. A "beautiful Beetle" from Southern California. *It's a goodie, Goode.*

60/Model Car Science



John Bender, age 12, from Cedar Falls, Iowa, put this AMT '69 Chevelle together, then detailed it throughout and puttied the rear spoiler in. He painted it blue and orange. A few distinctive decals were added. *Makes a great looking car, John.*



I'm sure a lot of other slot racing writers will be talking about the *Car and Driver* article on slot racing, but I may as well say my bit, if anybody cares.

The January issue of *Car and Driver* Magazine carried a story by Leon Mandel, Editor. It's something of a milestone, because it's the first story on slot racing personalities to be published in a major car mag.

It's about the pros, of course, and Mandel describes mostly the Eastern crew (Ursaner, Vitucci, Von Ahrens, Williams, Emmott, Brady) with the exception of the "main character"—John Cukras. Title of the thing is "Soooooo-kru... The Sound of Teenage Money."

That's right, Mandel deals mostly with the amount of money all the pros are supposedly making right now, throwing around the rather absurd figure of \$50,000 per year for Cukras. I think it's absurd... I HOPE it's absurd! J.C. himself won't tell me.

Mandel evidently thinks that there are a lot of bucks-up racers running around, but I'm afraid that there are, at the most, maybe five guys in the U.S. making over \$8,000 a year racing slot cars.

Mandel also makes out the average slot shop to be a very sordid, smelly place. Now maybe, after six years, I've just become conditioned to them, but I really don't get revolted every time I enter a shop. I guess he does, but he did tend to paint a pretty bleak picture. He said some very nice things about the guys ("exceptionally bright

and pleasant youths") and some not-so-nice things.

All-in-all, I think it was pretty well done, and a lot more accurate than I had hoped it was going to be. A lot of people I've talked to are a little upset about it, but what can you expect? I really think Mandel told it like he saw it, and relayed what he was told by the pros and other people connected with slot racing. He couldn't do much more, now, could he?

But on to other things.

As I write this I'm not sure if a set of the new "National Championship" rules will be printed in this issue, but I imagine it is. (We printed them last month, Mike-Ed.) These rules are a real landmark because it means that just about every race run in the United States this year will be run under the same set of regulations. How long have we been pulling for this, gang? Seems like fifty years, at least. So, now that we're all hanging together on rules, why not flash the job and get a real National Driver's Championship series of races going? Lynn Fletcher, President of the U.S.R.A.'s founding Los Angeles chapter suggests six races, with only a driver's top six finishes counting, because only a handful of guys will be able to make all the events.

Cities that have Nationals might be the New York-New Jersey area, Cleveland, Atlanta, Kansas City, Dallas, Chicago, Denver, Seattle, and Los Angeles.

I don't know yet whether Champion plans to have any Arco races in 1969, and if they didn't, this series would be a perfect replacement for them. The problem of who would run them is a good one. Possibly they

could each be run by the local shop-owner, or whoever runs the big ones in each area. Prize money could come from all manufacturers, with lots of publicity for their contributions guaranteed.

For the sake of fairness the races should all be run on American Red or Blue tracks if possible since these are the most popular types in the country, by far. Good battery power is a necessity, of course.

No plans have been drawn up by anyone yet, but at least the right people are talking about it, so maybe I'll have some good news in my next column.

And too, I might have some solid information on a new, nationally recognized "cheap" racing class. Nearly everyone agrees that the cost of racing is way too high now, and just about everybody agrees that it would be good for the game in general if some sort of good, competitive racing was started where the cost was controlled, and held down to some reasonable amount.

Well, the L.A. U.S.R.A. chapter, at its last meeting, talked about this for a while, and even appointed a three-man committee to look into it and come up with some suggestions and ideas. The committee consists of Gene Husting, Doug Henline, and myself, so I'll take advantage of my column and put down a few thoughts about it.

First of all, a nice figure to shoot at (for total cost of one of these cars (which I'll call "Formula C", for "Cheap") would be \$22, allowing, maybe, a ten-dollar retail price restriction on the motor, \$7 on the chassis, and five more for wheels, tires, axles, gears, pickup, and body.

Price restrictions on the motor and chassis would have to be very definite, or the whole idea of the class is destroyed. Motor modifications would be limited to new springs, new brushes, and respecing of the armature to get maximum end play.

Some chassis design restrictions would be necessary, demanding, say, three (and only three) main rails, a solid front axle, 7/8"-wide drop arm, and perhaps a maximum wheelbase of four inches, with no more than 7/8" pickup lead. Things like plumber setups would be up to the chassis builder.

Class would probably be for GP cars only, since they are the easiest, and cheapest, to build.

And to really keep us honest, a \$27 claiming price on the cars would be the clincher. If the rules stated that any car entered in the race could be bought for \$27 after the event was over, it would keep people from sinking any more money than was absolutely necessary into the things.

Please, you out there, write in and give us your comments on this. Maybe we could get the cost of this business back to where it should be, for those who want it to be there, at least.

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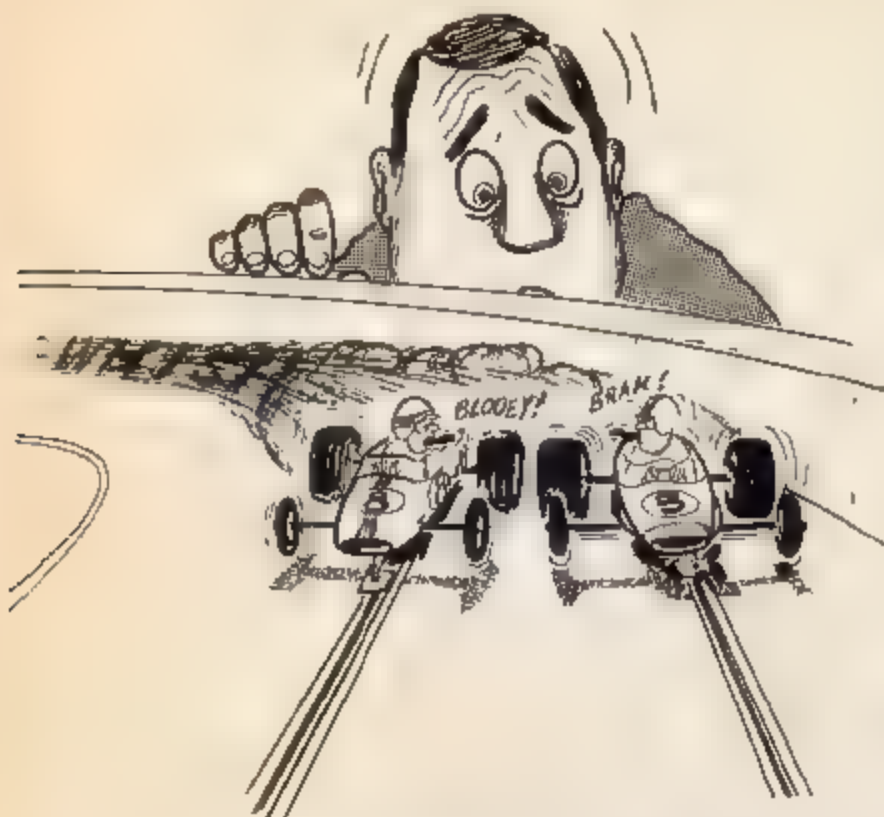
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By John Windsor

Here's how to make use of it

"Fogging" is a term that applies to spraying a contrasting color over a solid base coat, in an effort to achieve an interesting color effect.

Fogging is easy, once you've done it. I'd recommend practicing on an old model, so you don't ruin a model that you value. The "fogging mask" should help you immensely. The width of the "fog" spray is determined by how far away from the model you hold the mask, so practice a bit.

THE FOG'S "IN"



With all the fantastic colors on the market, all you have to do is choose the hues that strike your fancy. Your local hobby shop or department store carries every conceivable color imaginable.

84/Model Car Science



Before the base color coat is applied, any body imperfections should be removed by filling and sanding, using Testor body putty.



Spray several light coats of Testor primer on, and sand between each coat. The final coat should be sanded with #600 wet-or-dry sandpaper. Don't sand all the way through the primer.



The main body color on this model is Testor's #14 Yellow. Apply it in several very light coats, letting each coat dry at least 24 hours before applying the next. This is enamel, don't forget, and it doesn't dry as quickly as lacquer.

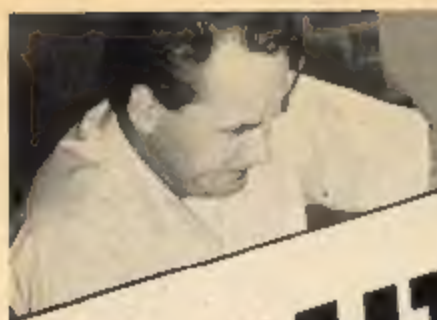


When the yellow has dried for at least a day, you can "fog" on the decorative paint. I chose Testor #1617 Candy Grapes for the fog coat. Make a "mask" similar to this one. Hold the mask about three inches from the body shell, and apply paint through the slits, in short bursts.

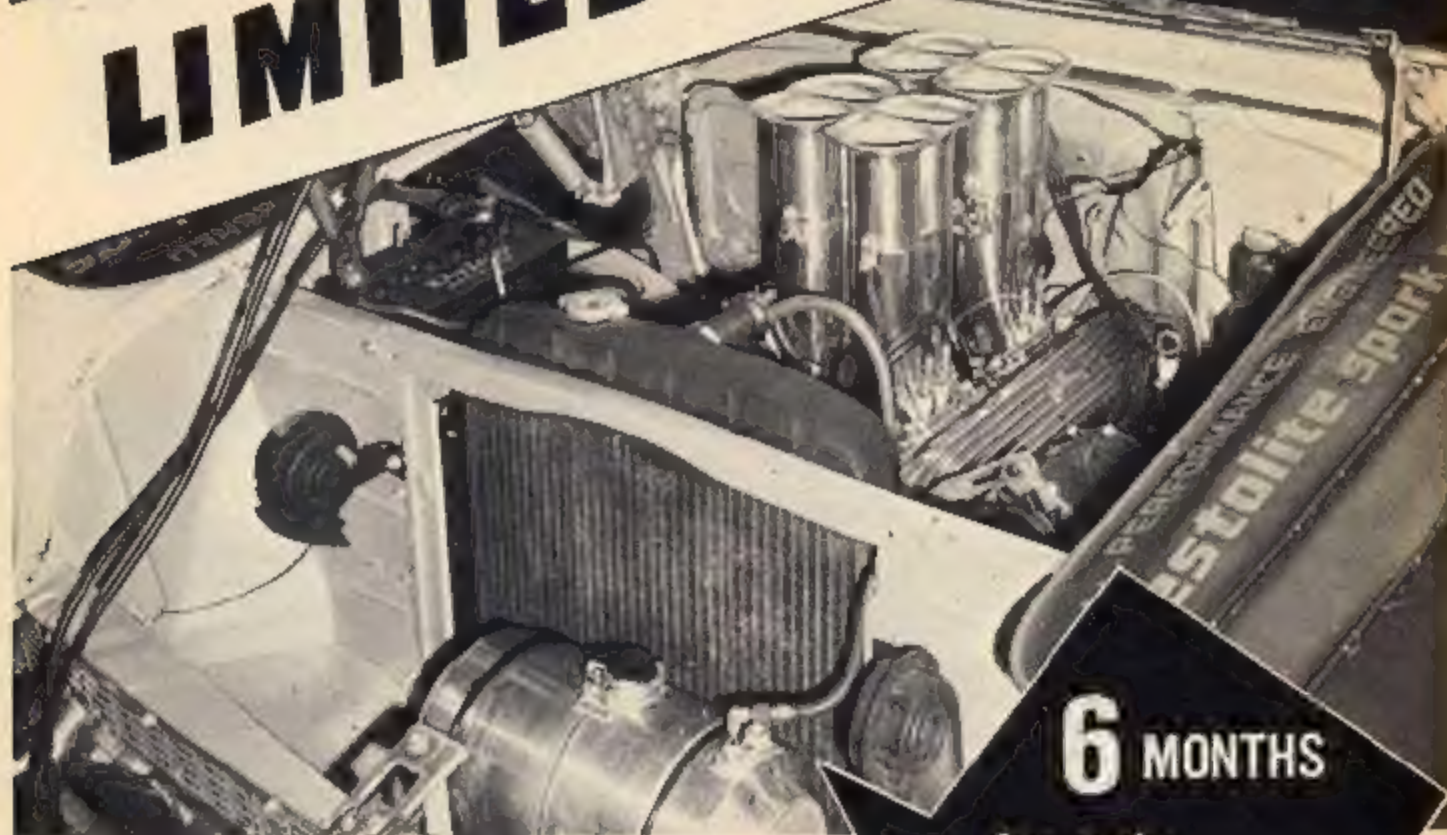


The fogged portion of the car blends in with the main body color, creating an unusual effect. Use different colors for wild combinations.





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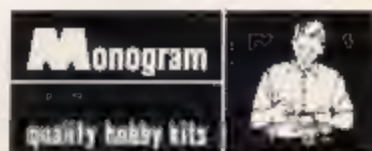
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